

COMMERCIAL CAR JOURNAL

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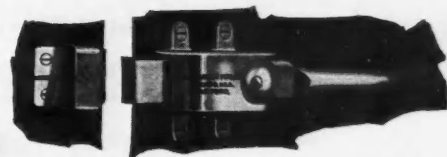
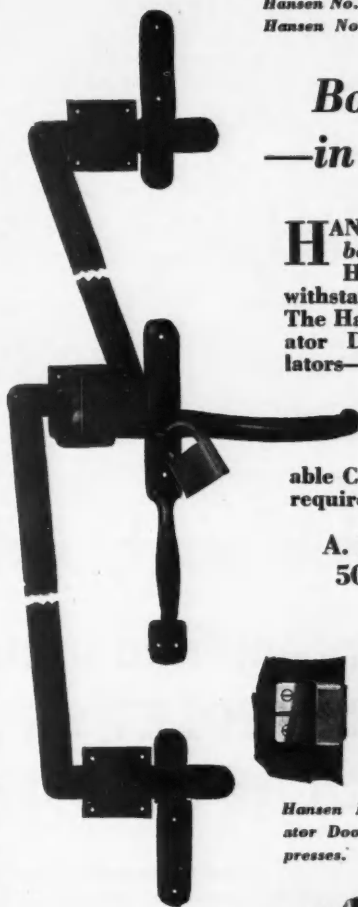
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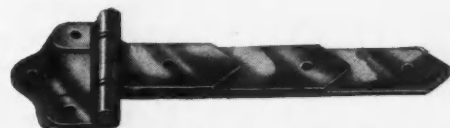
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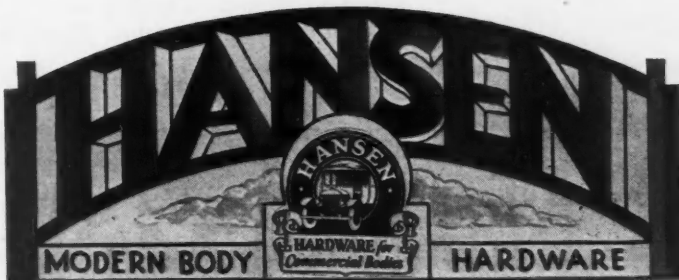


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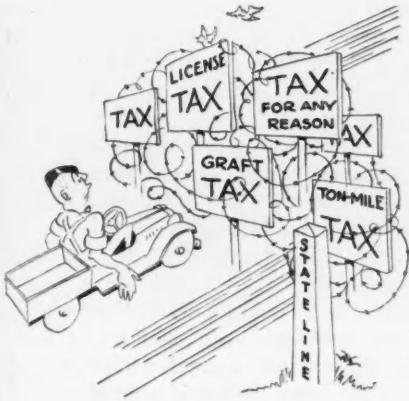
COMMERCIAL CAR JOURNAL

What Price Reciprocity?

Western Conference of Truck Owners
Agrees That States Must First Con-
sent to Uniform Tax and License Laws

By **RALPH J. STAEHLI**

Director, Western Conference
of Highway Users



REPORTS from the eastern conference on truck and bus legislation at Harrisburg, Pa., and close observance of the drift at the Salt Lake City bus and truck conference of legislators point with a long finger to the need of a nationally uniform plan of truck and bus taxation, a uniform system on which each State will build its own revenue structure. Without such a plan all talk of reciprocity in license and fee matters between States means a future of lawsuits and idle hopes.

Legislators who attended the Salt Lake Conference represented 11 Western States. They were called to Salt Lake to discuss uniformity of motor transport laws. This body, like the one at Harrisburg, was to act as a sort of pre-legislative clearing house. Delegates were supposed to pass resolutions and in turn bind themselves to take the import of those resolutions back to the legislatures of the States which they represented and recommend to those bodies that the resolute matter be made into law in their own States.

IN those matters where a common standard of comparison prevailed the Salt Lake Conference passed resolutions which can be adopted in each

"Fair" Regulations Needed

APPROACHING the problem of reciprocity between states, the Western Truck and Bus Conference, recently held in Salt Lake City, seems to have gotten nowhere. The Eastern conference held in Harrisburg, Pa., was equally disappointing. There is a crying need for legislation governing "reciprocity" that will be national in scope—and fair to all states.

An agreement as to the meaning of "reciprocity" as it affects truck operators would be the first logical step in the right direction. Some common grounds for trading the use of highways between states would be the next step. A workable license and tax plan would eliminate all this confusion. Such a plan proposed by an unofficial body of highway users who named themselves the Western Conference of Highway Users, calls for: 1. Registration license to cover the cost of policing, title and recording; 2. A metered gas tax to cover the cost of commercial use of the highways; 3. A meter tax in the form of gross revenue for states still determined to differentiate.

Unless a workable "reciprocity" plan is agreed upon, the trucking industry will wake up to find that behind the confusion which exists between states in their manner of taxing and licensing trucks lies the greatest opportunity for commercial enemies of trucking.

State. The conference resolved that laws prescribing maximum lengths of vehicle combinations should not specify less than 45 feet nor more than 60 feet.

Similarly with the problem of gross loads. The conference recommended that two-axle vehicles should be limited to 24,000 pounds gross weight, three axle single vehicles or combinations to

45,000 pounds and the S.A.E. formula (L plus 40 x 700) to apply on larger combinations.

APPROACHING the problem of reciprocity between States, the conference got nowhere. There were a dozen ideas of just what was meant by "reciprocity." There was utter lack of a clear idea of what was the industry's viewpoint or State interest involved in this subject. Nor is the industry affected giving "reciprocity" the attention it deserves.

THE trucking industry doesn't recognize nationally that behind the confusion which exists between the States in their manner of taxing and licensing trucks lies the greatest opportunity for the commercial enemies of trucking. Yet most of the mounting taxes and the inability of the industry to defend itself against the constant piling up of added burdens can be traced in a large degree to the lack of a fundamental, comparable basis for taxing and licensing commercial users of the public highways.

IN Oregon the truck-bus contribution to highway funds has reached the stupendous position where the trucks representing but nine per cent of all

(TURN TO PAGE 54, PLEASE)



Ideas from Western Fleets

Shop Foremen of Pacific Fleets
Tell About Some of the Tricks
That Improved Truck Operation

Belt Drive Stops Gear Strain

By A. R. Collins

A. R. Collins is shop foreman for Blankenship Motors, Oakland, Cal. His concern does the hauling in the San Francisco bay section for Montgomery, Ward & Co., in addition to other draying, and operates more than 60 trucks. Collins is one of the most persistent explorers of new gadgets. He outlined a number of fleet designed changes while seated in his tiny office.

WE were having trouble with our timing gears. We had a lot of brand new trucks, but the timing gears would break down almost without provocation. Seldom would any of the timing gears run right for more than 18,000 miles, and many of them would go out much sooner than that. Sometimes, on a 420-mile trip to Los Angeles, a truck would lose two or three gears.

Something had to be done. The situation was costing us a heap of money. Every time we had to send out



A. R. Collins: "I changed the generator from a gear to a belt drive."

These Ideas Gave Results

HERE are some mechanical improvements in trucks made by Pacific Coast Operators. If readers want to know more about these experiments, Commercial Car Journal will gladly put them in touch with the men who made them. The ideas covered are:

1. Belt Drive Stops Gear Strain; Natural Cooling Saves Drums; Making Cylinder Sleeves Stick; Clinging Oil Formula—by A. R. Collins, shop foreman, Blankenship Motors, Oakland, Cal.

2. Spiral Rod for Tow Chains; Improved Radius Rod Position; Two Tricks of Operation—by A. J. Astley, shop foreman, Oakland, Cal.

3. Gas Saving Device Effective—by Roy O'Donnell, shop foreman, Morris Draying Co., San Francisco.

4. Castor Oil Aids Worm Drive—by Arthur Bettencourt, shop foreman, Acme Transportation Co., Oakland, Cal.

5. An Improved Water Pump—by E. A. Hoffman, shop foreman, Tuttle Cheese Co., Oakland, Cal.

6. Heat Control Proves Economical—by G. L. Wolseth, shop foreman, United States Laundry, San Francisco.

and rescue a truck with a stripped timing gear it cost from \$50 to \$60. The trucks were equipped with a fiber gear, and it was this that was causing the difficulty. The fiber gear wouldn't stand the pressure. The strain would pull the teeth right out of them.

NOTICING that the metal on a brake drum stood up all right, I asked myself why a metal timing gear would not solve the problem.

So I had a gear made of Meehanite metal. I removed the internals of the generator and left a dummy gen-

erator there to hold the gear in place. The real generator was mounted on the other side of the engine and was driven by a belt, thus removing the load of generator driving from the gear train.

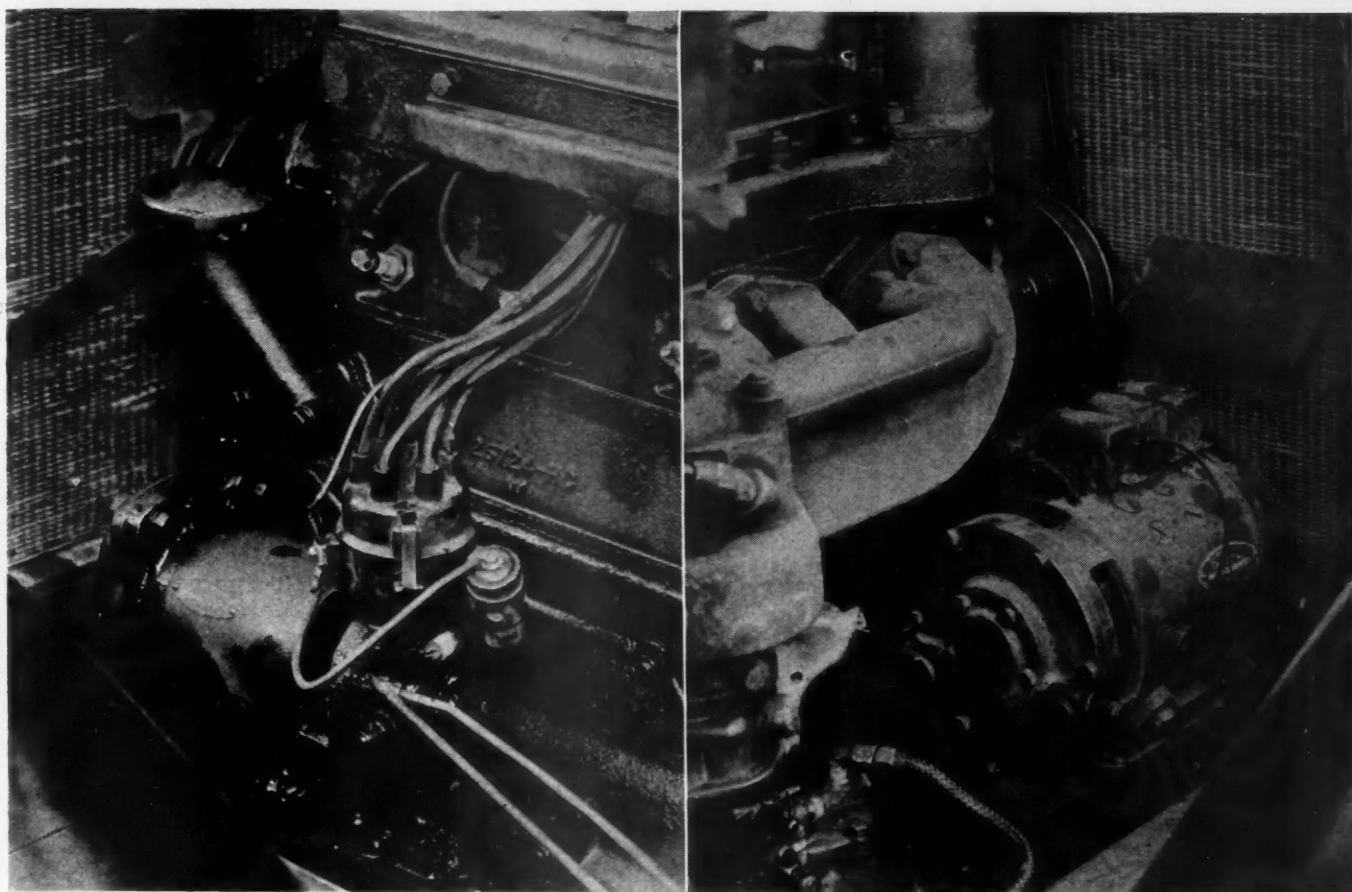
The changed positions kept the balance all right and prevented the weight of the metal timing gear from affecting the bearings. When representatives of the truck manufacturer heard of our plan for putting in a metal gear they went up in the air. Said they would remove their guarantees on their trucks if we took any such chances as that. But the scheme worked perfectly, and now the truck maker is a firm booster of it. Besides, we save our company from \$2,000 to \$3,000.

● Natural Cooling Saves Drum

WE also had trouble with our brake drums. The drums cracked with painful regularity. I investigated and concluded that the trouble grew out of sudden transitions from the hot to the cold stage of the drum. After a little thought and ex-



A. J. Astley: "The spiral rod idea was mine."



Left: Dummy generator with internals removed. Right: New generator hook-up with belt driven by crank-shaft

perimentation, I came to the conclusion that we would have to do away with the fins. When we announced our new plan, the supposed experts told us it couldn't be done. They said we would have so much heat that we would have no brakes—that the drum would expand so much it would move away from the brake shoe. But we went ahead with it. I had an entirely new kind of brake drum made, without fins. In place of the fins, I put a crown, or band, on the top of the drum, clear around it. There was no undue heat and no expansion. The natural action of the drum, without the fins, permitted it to cool gradually when the brake was not in use. We have had no cracked drums since then.

● Making Cylinder Sleeve Stick

ON some of our trucks the cylinder sleeve seal rings were leaking. We couldn't seem to get the rubbers effectively vulcanized to the sleeve when we put them in between the motor block and the sleeve. After experimenting, we found that an ideal solution for affecting the amalgamation was Ivory soap and water—two tablespoonfuls of soap flakes, one quart of hot

water and one ounce of glycerine. Dip the rubbers in the solution, and the sleeve will cling like an old maid getting her first kiss. Another, and perhaps an even better treatment before slipping them on the sleeve, is to dip them into red paint. We use the latter method now as it is less bothersome. Recently the truck manufacturer issued a bulletin advising its use and explaining the method.

● Clinging Oil Formula

OUR oil was not satisfactory. We tried several brands, but were not satisfied with any of them. We were not getting enough lubricating quality in the oil. It was not clinging to the gears sufficiently. So we had the engineers from the oil companies come out and work with us until we had evolved a new formula that would give us what we wanted. This new oil, now being made especially for us, is about 160 lube. We have lard oil included as one of the ingredients to give it the proper clinging habit. Castor oil, which we tried before, will do this to some extent, but it is more expensive and not as effective as the lard oil. Other elements were included as test showed they were required. Now we have a perfectly satisfactory oil.

Spiral Rod for Tow Chains

By A. J. Astley

A. J. Astley, shop foreman for the Oakland-California Towel Co., which operates 52 trucks from its Oakland headquarters alone, is also an experimenter. He has been a trifle unhappy because somebody copped one of his choice inventions. Let him tell about it:

I WANTED something that would serve as a fastening for tow rods or chains, a sort of connecting link between the rod or chain and the vehicle that is to be fastened to the towing car. I wanted something that would hook on quickly and securely, without having to spend a lot of time fussing around tying ropes or chains. So, a metal rod, about $\frac{3}{8}$ of an in. thick, was bent into the form of a spiral, with about four or five curves in it. One end of this rod was fastened permanently to the tow chain. When you have run this rod and the chain around the axle, or whatever the chain is to be fastened onto, you merely hook the spiral part of the rod into the chain in one motion and you have formed a loop that is perfectly secure and safe. You can slide the chain along through it, so as to tighten it up on the axle, that is, shorten the loop. Someone saw it in use and marketed the idea.

● Improved Rod Position

I MADE so bold as to differ with the Ford factory and to make a change in design in the interest of less breakage and more economy. In the ordinary assembly the radius rods run from both sides of the front axle to the clutch housing. But I noticed that the jar of the heavier machines persisted in breaking the flywheel housing. So I detached the radius rod from the motor and connected it with the frame cross-member, slightly in the rear of its previous resting place. We haven't had a broken flywheel housing since.

● Two Tricks of Operation

I have put into effect a device that uses the truck's own machinery to improve its operation. I run a pipe from a connection with the breather pipe around the back of the motor and connected it with the carburetor air intake. This carries off the fumes from the breather pipe and, as there is always a little oil in the fumes, the introduction of this into the carburetor carries it to the valves and cools them.

We have all of our tires retreaded and get from 25,000 to 35,000 miles out of them, which is about the same mileage that we obtained from new tires.

Gas Saving Device Effective

By Roy O'Donnell

Roy O'Donnell is shop foreman for the Morris Draying Co. which hauls fruit to the canneries of the big packing corporations. He has been testing a device for saving gas for an Oakland inventor.

THIS gadget, says O'Donnell, is installed between the governor and the manifold, hooked on with a line from the manifold to a cylinder. There is a spring and a piston, or plunger, that is governed by pressure on the spring through a set screw on top of the plunger. As the machine goes down hill and as a vacuum is built up, after you close your throttle, a port is opened which lets air directly from the outside into the motor. There is a new one, electrically controlled, which works with a cutout on the generator, instead of through the vacuum and plunger. It is more sensitive and takes effect more quickly than does the vacuum-and-plunger type, besides saving more gas.

We have been using the device for something like seven months on about 10 trucks and we figure that it saves us about 10 per cent on our total gas bill, though we have no definite figures.



Spiral rods for tow chains

Castor Oil Aids Worm Drive

By Arthur Bettencourt

Arthur Bettencourt, shop foreman for the Acme Transportation Co., with headquarters in Oakland, Calif., is a convert to the use of castor oil in the differential of worm-drive engines. This is what he says:

WE have the differentials of two of our 12 trucks loaded with castor oil. It is suitable only for worm drives. It costs more and has one or two disadvantages, but it is fine for saving wear on the rear end. We were brought to realize its usefulness through the sight of an old truck whose rear end was in excellent shape. It seemed impossible. We inquired about this and learned that someone had been using castor oil, so we tried it.

WE tried it for about six months on two trucks used for hauling gasoline. The oil seemed much cleaner and we are convinced that the wear on the rear end will be greatly decreased. It is thinner than the ordinary material used for the differential and so may work out a little onto the axle, but the only thing it hits there is grease and that doesn't hurt anything. The differential must not be filled too full, or it will slop over. Regular oil must not be mixed with it, or it will cake and tend to burn out a bearing. We put some regular oil in on top of castor oil, at first, before we knew it made any difference. The driver noticed the engine pulling heavily, got out and found it all heated up. We had to tow him in and then chop out the caked stuff with an axe.

An Improved Water Pump

By E. A. Hoffman

E. A. Hoffman, shop foreman for the Tuttle Cheese Co. in Oakland, had these ideas to offer:

I REPLACED the water pump in our Fords with a metal pump. This pump doesn't depend on a braided packing to hold the water back, but on a hardened fiber collar. Since I have put these in, I have found they required no attention whatever.

We had one of the motor vacuum devices for shutting off the gas and substituting air on the trucks for a few days, but it doesn't seem very satisfactory to me. The rheostat doesn't appear to be heavy enough to open the valve and it cracks the throttle. It could stand a little improvement, I think.

Heat Control Economical

By G. L. Wolseth

George L. Wolseth is in charge of the repair shops for the United States Laundry in San Francisco. He has perfected a plan for maintaining an even temperature through the motor and at the same time increasing the mileage obtained from gasoline. This is the way he explains it:

WE use 1933 Dodges. Their fans make a stiff breeze on top of the motor, which keeps it too cold. So I have installed an adjustable thermostat in the top radiator hose to raise the temperature of the water. I have also found that by installing a guard, in the shape of a plate, in front of the intake manifold, which keeps the breeze away from it, I can produce a more uniform heat. Otherwise, while the front of the intake manifold is cold, the heat in the back goes as high as 180 deg. This plan also raises the amount of mileage obtained from gasoline from two to three additional miles per gallon.

THE Pacific Gas & Electric Co. is constantly seeking improved methods of operation, with a view to cost reduction and more efficient performance. They use an exhaust gas analyzer in an effort to maintain proper mixture. Other instruments in use testing for greater fuel economy are a vacuum gage, a Neon tuning light and a gasoline flow meter.

In the meantime, experimenters go on experimenting. We will report on these later.

Ears to the Ground

Giving You Information Some of Which Is Inside, Some Advance and Some Just Unusual

Two-Speed Axle for Trucks

A PROMINENT axle manufacturer has tools nearly completed for the production of a two-speed axle for 1½-ton trucks. A combination of more speed as well as greater tractive effort is said to be provided by means of this unit than in any axle now in use. (Name on request.)

Automatic Fuel Cut-Off

A Muskegon manufacturer expects shortly to announce an inexpensive accessory for automatically stopping fuel flow from the carburetor jet whenever the engine is being used as a brake—either in ordinary deceleration in city traffic, or when descending mountain grades in gear. The object is partly to somewhat lessen brake wear and muffler damage due to muffler explosions; partly to cool off the engine more in hot weather, and lastly, to lessen complaints about exhaust fumes which are more apt to be sucked in at such a time. No valves or complications are added to the carburetor, and fuel flow is automatically restored before the engine can stall.

The Tip-Off

The automatic oil signal mentioned here last month is made by the Klemm Products Co. Another on the market is made by Brust-Harig Mfg. Co. Their purposes are identical and you may wish to compare mechanical merits. If so, both makers will send you descriptive pamphlets. Tip us if you are interested and we'll tip them.

See This One, Too

Then there's the recently granted patent on pressure-controlled switch. It has for its object the closing of the ignition circuit when a pressure is created in the lubricating system of the engine and opening the circuit when the oil supply is exhausted or the oil pump fails. Messrs. Rassas and Lemaitre hold the patent, they inform us.

Automatic Transmissions

To camel-backs and Diesels we can now add automatic transmissions as among the most vital topics in the commercial vehicle manufacturing industry. At least two companies of major importance in the truck field are playing with automatic transmissions, and several others are reported as investigating the semi-automatic varieties. At

least it seems as if some further steps are to be taken shortly by at least a few manufacturers in making the problem of gear-shifting a little easier. Don't expect anything on this in the next 30 days, though. It's going to take time to work things out properly.

Why Camel-Backs are Back

Since we mentioned camel-backs we might emphasize once more that if more states pass these 18,000-lb. axle load to 24,000-lb. gross load laws, more truck manufacturers are going to plunge into the field. It is to be doubted, however, that camel-backs will get down to the 1½-ton field. It's a legislative problem, entirely and so far the 1½-tonners are still in the clear on load capacity.

Two new cab-over-the-engine models are announced in this issue. One is the "streamlined" Available and the other a modernized version by the Four Wheel Drive Auto Co. Other jobs are coming.

A Diesel Problem

Interest in Diesels is also largely confined to producers of heavier trucks. We can't find any particular sentiment in favor of trying them out in trucks below 2 tons' capacity. Price, of course, is probably the most important single item determining this lack of interest. And price goes with volume. And volume in a number of the most important cases is derived from duplication of engine parts in trucks with those in passenger cars.

Two-Axle Drive Unit

It isn't an absolutely new idea, but it's important since one of the most important axle companies is behind it—a four- or six-wheel truck design driven at will either with one of the rear axles alone or as a four-wheel-drive type. The particular company has worked out a design for installation on standard low-priced trucks, we understand, so that the drive to the front axle can be declutched at will. When the clutch is out it's a conventional drive, the gears in the front end merely idling. The clutch is thrown in for real hard pulls. To get the installation worked out so that it can be adapted to standard trucks with the minimum of change, the differentials are offset, we are told, way off to one side, so that the propeller shafts can get by the powerplant, etc.

It's In the Army Now

The report has it that the government is largely behind the above development for army trucks, but there seems to be no reason why it can't reach the commercial field, either as accessory equipment or in standard production, just as six-wheel rear units are available either from some factories or through the "replacement" channels.

A Line on Buses

Buses are a little out of our line, but for the reason that bus and truck manufacture is so closely related it might be interesting to mention here that there is a lot of work going on with rear-engined vehicles. Cab-over-engine development in trucks has probably helped this picture along in the bus field, since many problems are alike.

Yours for the Asking

Here are six booklets specially offered to readers of this department by manufacturers. They are free for the asking. Just fill out the blank and mail. Check those you want.

- ☐ The Piston and Its Finishing. (42 pages on right and wrong ways to refinish a piston.)
- ☐ The Mechanical Principles of Cummins Diesel Engines. (48 pages of valuable Diesel data.)
- ☐ Buy on Facts. (20 pages of experienced guidance to truck buyers in checking salesmen's claims.)
- ☐ Technical Data on Chevrolet Automatic Spark Advance and Hoof Cantilever Spring Governor. (12 pages.)
- ☐ Catalog of Cloyes Noiseless and Metal Timing Gears. (16 pages with trucks listed by makes and models.)
- ☐ Modern Tire Maintenance Manual. (Pages and pages of practical dope for fleet men.)

Name
 Title
 Firm Name
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 Street and State
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Assault and Batteries

Average Fleet Does the Assaulting and Batteries Take the Punishment, But the Fleet Pays the Costs and a Heavy Fine

By **HENRY JENNINGS**

Technical Editor

A JURY of men who are engaged in making, selling and servicing batteries returned a very serious indictment against the average fleet operator in time for this issue of **COMMERCIAL CAR JOURNAL**. Acting upon some very definite indications that fleet operators thought they were paying too much for battery service, this jury was asked to review the case and to reach a verdict on what could be done to reduce this cost.

The indictment reads: **GROSS NEGLIGENCE IN THE CARE AND HANDLING OF BATTERIES.**

IF you are a fleet operator who feels that this indictment is a slander, it is not necessary to sue in a civil court. A brief of exceptions has already been filed in your behalf and the court and jury readily admit that there is a list of operators to whom this charge is not applicable.

It might be charged that this jury was prejudiced and not a representative group, due to the fact that no fleet operators were among the men who sat in judgment. Before this charge gets any consideration let it be said that a sufficiently large panel, to insure representation of all groups, was called and exhausted without getting one fleet operator to act as a juror.

THE first operator drawn for jury service asked to be excused on the grounds that the trucks in his fleet were just now being replaced with trucks equipped with storage batteries and his experience with batteries was so limited that he did not believe himself competent to pass judgment on



this subject. The rest of the operators agreed that the cost of battery service is too great, and that thought represented the total of their thinking on the subject. They had no plans for reducing battery cost and little in the way of a battery maintenance program in effect at present. Whatever their battery service costs—and they are not sure what they are—they just happen.

The only irregularity in this hearing was that jurors also had to qualify as expert witnesses because of the technical nature of the subject.

PAT KEHAN, who has always done a good battery business in an independent shop, which caters to trucks and truck fleets, was first to give an opinion. He thought a minute about the question, "What can fleet operators do to reduce battery costs?" and then answered:

"Aside from the obvious things [remember that phrase] the main attention that batteries should get is better regulation of the generator output."

"So you think batteries do not get sufficient charge from the generator?" The answer was surprisingly negative.

"In a few cases only. Most of them get too much. This idea of throwing a heavy charge of 15 to 20 amperes into a partially discharged, partially dry battery is all wrong. Most generators are set up for winter driving and then the charging rate is never reduced."

"With the result——," we led him on.

"With the result that the battery runs dry, the plate surface above the water level becomes hard, and the battery reaches a high temperature where a state of general disintegration sets in."

A FEW blocks up the street we found ourselves face to face with Armond Fenton who handles the battery department for a large battery distributor. The usual question was asked. "What can fleet operators do to reduce battery costs?"

Without hesitation Armond answered, "Take care of the batteries."

"Please be explicit."

"Put water in the battery at regular intervals. Test the battery for specific gravity and voltage periodically."

Despite the fact that our experience with the fleet operators who were excused from jury duty did not indicate that they had a regular routine for performing these services the impression still existed that truck batteries
(TURN TO PAGE 18, PLEASE)



How to Get Long Life From Batteries

THE right care of the battery at the right time is the best defense against battery trouble. The jury of battery men render a verdict of battery longevity if these recommendations are followed:

1. Check the water level every 2 weeks. The correct water level is $\frac{3}{8}$ in. above the top of the plates or at the bottom of the filling tube. Use tap water if you are sure it has no mineral content that will destroy the battery. If you are in doubt use distilled water.

2. At the same time get a specific gravity reading with a hydrometer syringe and a voltage reading. If the specific gravity reading is 1.225 or below in any cell or any cell shows less than 1.5 volts under starting load, remove the battery

and charge it. Do not wait for the battery to fail.

3. At the same time inspect the terminals for corrosion. If the terminals are corroded, remove the corrosion and brush them with a solution of ammonia or soda. Dry the terminals and apply either vaseline or a mineral base grease.

4. At the same time check the battery hold-down clips. The clips should not be excessively tight nor should the battery be permitted to bounce around in the box.

5. Check the generator charging rate every time you look at the instrument board. It takes less than a minute. No one can give you a set charging rate. It depends upon the mileage the truck covers and the number of stops together with

the amount of electrical equipment the truck carries. Necessity for too frequent additions of water may indicate that the charging rate is too high. A battery in chronic need of charging may indicate that the output should be boosted.

6. Keep the engine tuned for easy starting.

7. In cold weather use winter grade oil and gear lubricant to reduce the starting load.

8. Use voltage regulators and keep them properly serviced. If they are not in good mechanical condition better do without them.

9. Select your batteries with the same care that you give the selection of, let us say, piston rings.

10. Keep records to show what you have done and are doing.

Assault and Batteries

(CONTINUED FROM PAGE 16)

received a more plentiful liquid diet than did the batteries in passenger cars and we said so.

Armond patiently explained that this impression was not a fact and went on to tell us that the passenger car owner had to pay for a new battery when his old one failed.

"BUT wait a minute," we interrupted him, "the man who operates a fleet has more than the price of a battery at stake. His salary depends upon his ability to take care of trucks."

"Well, maybe we are not good lawyers. Maybe we do not provide a good alibi for the fleet operator but we handle a lot of passenger car batteries and quite a few fleets bring their failures to us. The truck batteries invariably show signs of worse neglect than do the passenger car batteries—with one exception. We service all of the batteries in this vicinity for a national fleet. This fleet averages three times the battery life of the other fleets. We have never been able to put our story over with the other fleets."

THIS condition seemed unusual so we stopped back to check with Pat Kehan. Pat looked at us in amazement. "Certainly, truck batteries are neglected more than passenger car batteries. I said aside from *obvious things*."

Admitting that you did not know this fact was to these men like admitting that you did not know there were any Rocky Mountains in the State of Colorado. Subsequently their statements were corroborated by everyone with whom we discussed batteries. All knew of only a few exceptions.

Our next stop brought us to the desk of Sam Ert. Sam manages the battery department for a branch of a large manufacturer. Sam asked us, "What kind of trucks do you want to talk about. Some trucks run 10 miles a day and make 75 to 100 stops. Others run 10,000 miles in three months and stop once every 100 miles or so. It is a matter of care (as already outlined) and regulation of the generator output. An inflexible rule for regulation of generator output could not be given for trucks operating under such widely different conditions."

A large stack of batteries, obviously in for repairs, attracted our attention.

"BATTERY repairing is about a thing of the past," explained Sam. "Most of the work we do is replacing cracked cases and covers and

Prepare for Shocks!

Who comes out ahead, the fleet man who buys a quality battery or the man who buys a price battery?

Are fleet operators getting battery life that even approaches the maximum?

Does the average car owner take better care of the battery than the average fleet operator? (Surprise.)

Will a high generator charging rate bring back a low battery?

Do battery men advise the use of voltage regulators?

This article answers all these important questions. If you have any opinions we will gladly publish them.

some broken posts. And it is all caused by a lot of foolishness. Careless handling and installation and failure to tighten hold-down clips."

About this time Mr. Wismer came in interested chiefly in the purchase of two batteries. Mr. Wismer is the service manager of a truck factory branch.

"About 98 per cent of premature battery demise is due to gross negligence," said Mr. Wismer. Which left Mr. Wismer without much more to say because we are not going to lose much sleep over the other 2 per cent.

Just before we departed Benson, Sam's assistant, came into the discussion. After he got over the obvious crack about buying his brand of battery to reduce costs he became very interesting.

"On about one-third of the battery jobs here we sell cables. Due purely to neglect. Corrosion not only creates a high resistance connection, it eats into the cables and makes that moment at which the cables part, occur at some very embarrassing times."

SAM had entered into the spirit of this discussion with real enthusiasm and at this point he called Mr. Dempwolf, an engineer of a battery manufacturer. Mr. Dempwolf contributed these instructions relative to selection of batteries. Stop trying to cheat on the first cost. Do not select batteries on a price basis only. Be sure the battery you buy has sufficient capacity for the job it is supposed to do.

But, we complained, operators say they get just as good service out of the cheap batteries as they do from the quality ones. Mr. Dempwolf answered:

"Sure, if you are going to neglect

the battery a cheap one will probably last about as long as the quality one. But do not forget that you are getting about all of the life the cheap one has under any condition, but a quality one will last about three times as long if you take care of it. Do you think the difference in the cost between a cheap battery and a quality battery amounts to as much as the saving made possible by buying a quality battery and then taking care of it?"

IT might be interesting to observe that at one point Sam Ert was trying to show us how hot a battery could get in service on a hot summer day. He grabbed his battery thermometer and we headed for the shop. We inspected the batteries on 10 trucks that had just driven into his shop for service and not one of them had enough water to get a thermometer reading.

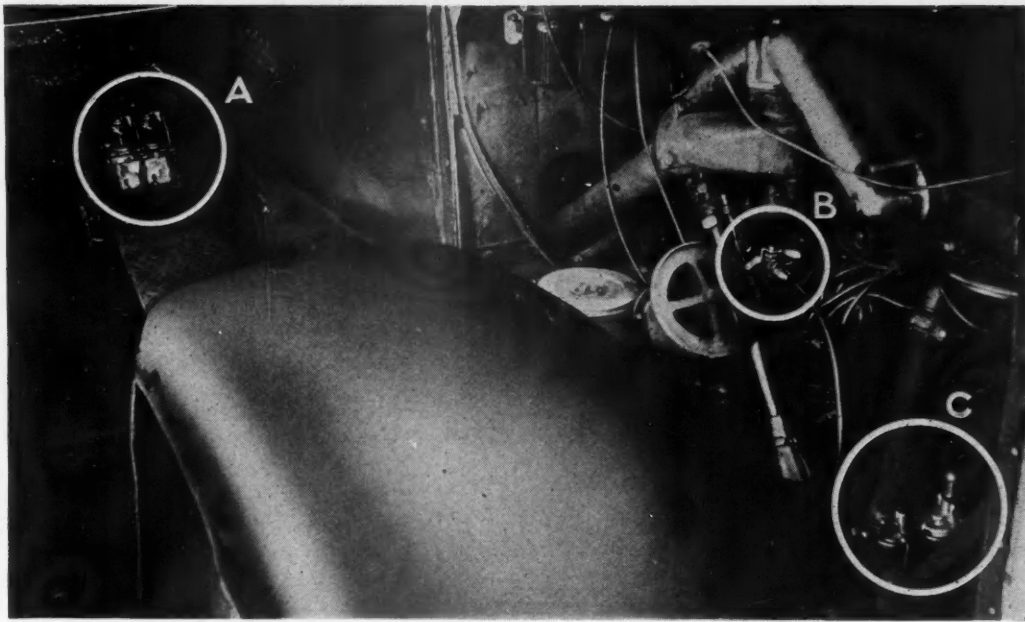
From this point on, this hearing was conducted in the judge's chambers, so to speak. In other words it was conducted in a round table conference with the experts of a large battery manufacturer. Seated at this table were Mr. Leighton, who spent years making a survey to ascertain the field conditions under which batteries operate; Mr. Logan, who handles the replacement sales for the company; and Mr. Ellis, who has advertised batteries so long that he knows, intimately, batteries and the people who use them.

AFTER we got past the more or less elementary factors in battery care, the subject of voltage regulators came up. This group is 100 per cent for voltage regulators on one condition. That is if the operator is willing and able to keep the voltage regulators in good order. Removal and adjustment every 5000 miles by a competent mechanic is necessary. Examples of battery life being increased 200 per cent to 300 per cent were cited.

We came away from the table with a set of rules, which if you are not following now and start to do so, will double or treble the present battery life in your fleet. These rules are on another page.

OBJECTIONS to this routine on the basis that it takes too much time or that fleet operators are in the business of keeping trucks on the road and not of keeping records will not be sustained. Figure it out for yourself. If you can prevent road failures you will actually save time.

The hearing is now open to further witnesses.



Horlacher trucks are equipped with electric fuel pumps (A) used by turning 2-way cock (B) when mechanical pump (C) clogs or fails

835,000 Miles—3 Road Failures

18 Years of Operation Teaches Film
Hauler That Answer to Split-Second
Delivery is Preventive Maintenance

2,000,000 Miles Yearly

DAVE McFADDEN stood in the doorway of his garage on Ridge Avenue, Philadelphia, and watched a big green truck bearing the legend "Horlacher Delivery Service" come down the hill. When the truck reached a point in front of his shop he looked at his watch.

"Right on time," he said.

"What—the truck?" we asked.

"No, my watch—you can set your watch by that truck."

This report and several others from along the routes covered by the Horlacher trucks reached *COMMERCIAL CAR JOURNAL* with the result that it was decided to find out what kind of a split second maintenance program made it mechanically possible for the trucks to adhere so closely to a rigid schedule that disinterested people noticed it and could tell time by them.

THE Horlacher Delivery Service is headed by the Clark brothers, Jim and Bill (Tom runs the Washington, D. C., branch) and with this intimate relationship between the members of the management it is hard to say just where the duties of one leave off and

THE Horlacher Delivery Service operates 75 trucks that cover approximately 2,000,000 miles yearly. In the last 835,000 miles they have had only three road failures. This is a good record for any trucking service. But with the Horlacher company it is no longer a record to shoot at—it has become a commonplace matter of operation. They have to do it. Their business depends on split-second delivery. How they maintain this service is best explained by them when they say that the experience of 18 years has taught them to direct their energies to preventing a recurrence of mechanical failures on the road—and to be prepared for them when they do occur. Their preventive methods have enabled them to operate a scheduled shop service and hold down maintenance costs. The means by which they prevent recurrence of failures are explained in this article.

the duties of the other begin. For our purpose it is sufficient to say that Bill spends his time with the fleet and Jim who is president of the company devotes most of his time to sales and

other angles of the business. Two of the brothers were present when the facts of this piece were gathered and both contributed to the details.

From New York to Newport News, Va., and as far west as Chambersburg, Pa., the Horlacher fleet delivers moving picture film, newspapers and Chase & Sanborn's dated coffee. The largest part of the business is film delivery by a wide margin but the newspapers and the coffee, under the present merchandising plan, are just as perishable. The existence of the business depends solely upon its ability to meet a rigid fast schedule.

WITH this in view we went to the central shop in Philadelphia expecting to see a very elaborate layout for the maintenance of the 75 trucks but instead of devoting all of their energies to setting up a shop to take care of repairs in a large way the Clark brothers and their entire organization have studiously applied themselves to preventing the recurrence of the same mechanical failures.

Perhaps this can best be illustrated by their experience with generators.



Thousands of feet of film are loaded on trucks ready for split-second delivery to theatres where the show must go on

Most of the Horlacher driving is done at night with the result that generators operate under extreme conditions. The fairly recent edict demanding even better lighting for trucks increased the load on generators. For a while they experimented with generator repairs and came to the conclusion that it is simply not in the cards for the standard equipment generators to do the job they demanded of them.

Now this company has some very definite ideas of what a generator should be and what it should do. Regardless of what the truck manufacturer thinks of the generator he has on his truck as standard equipment, the Clark brothers do not buy a truck unless the generator meets their specifications.

ANOTHER item that gave more than its share of trouble was springs. The trucks are for the most part governed at the maximum legal speed. The driving is of necessity relatively fast and the loads for the most part are heavy. Spring breakage came with discouraging regularity so the shop became spring-minded. As a result new trucks are now delivered with helper springs which the company considers adequate for Horlacher service, or with extra leaves built into the springs depending upon the type and capacity of the truck.

The answer to clogged fuel lines was an easy one. The trucks came equipped with mechanical fuel pumps. The shop mounted an electric pump. The trucks already had two gasoline tanks to give them ample capacity. The electric



Courtesy Earle Theatre, Phila.

pump is mounted in such a way that either pump can draw gasoline from either tank by flipping the toggle switch on the instrument board and turning a petcock at the carburetor gasoline intake. And while we are on the subject of fuel, let's start at the beginning. The gasoline pump at the door where all trucks are gassed up preparatory to starting on their runs has a twin on the other side of the doorway. Only one pump is ever used. The other one is there in case of failure

of the first one. Pump failures have occurred which would have put the company in an awful hole had it not been for the spare.

Ignition failures are prevented to a large extent by purchasing trucks equipped with both magneto and battery and distributor ignition.

ABOUT 18 years of film hauling has taught this company to gage the safe distance in miles between routine maintenance operations. By routine operations we mean engine tuning, valve grinding, piston ring installation, cylinder reconditioning, etc., and the other shop operations that are the result of normal wear and not of breakage. Just how expert they have become in gaging the mileage intervals can be seen by the following account:

The 75 trucks cover roughly, 2,000,

000 miles a year. During the last 835,000 miles of operation the company has had only three road failures. One was a water pump failure due to successful efforts to avert a collision. Another was a propeller shaft failure in which the truck manufacturer admitted the fault and made the replacement. The third was an axle shaft failure on a light truck. The driver of the tractor that makes daily trips between New York and Philadelphia has not changed a tire on the road for

2½ years. The truck that operates between Philadelphia and Scranton has not had the hood lifted enroute for the last 40,000 miles.

THE whole system operates on a relay basis. The trucks that work out of Philadelphia meet other trucks at designated points. Loads are exchanged and the Philadelphia truck starts back home. Washington operates like Philadelphia only on a smaller scale. The trucks that work in the outlying districts come into Philadelphia only when they need mechanical attention. For instance, the truck that gets its load from the Philadelphia truck at Allentown, Pa., and carries it to Freeland, Pa., comes to the Philadelphia shop once a week. Instead of exchanging loads on Saturday night the drivers swap trucks and the Philadelphia driver brings the Allentown to Freeland truck into Philadelphia and returns it on his next trip.

The trucks that are farthest away from the shop always have new tires. When tires begin to show signs of wear they are exchanged for new ones and the used ones are put on the local pick-up trucks that come into the shop every day. The drivers in the outlying districts lubricate their trucks once a week and arrangements are made with the storage garage to wash the truck. Daily reports from the distant drivers provide the shop with a constant check on their trucks and occasionally a truck is brought in ahead of schedule due to things that the driver notices or oil consumption or some other indication that the truck is headed for trouble unless it gets some attention.

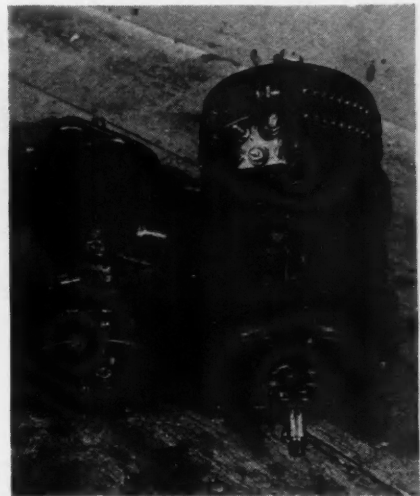
NEW trucks are purchased every fall. These new trucks invariably go to the runs where it is not possible for the shop to see the trucks every day. It also gives the driver who does not get daily shop inspection a new truck for the winter months during which his truck works under the worst

conditions it ever encounters. When the trucks are one year old they are put into service on a run where they get to the shop daily.

There is a list of things that are inspected daily in the shop but the Clark brothers are not particularly impressed by their own or anyone else's list. They believe that the inspection depends upon the man who does the inspecting. That a man could inspect the items on any list that could be compiled and still miss something vital if he were not interested in his job and the success of the company. Certain runs have a more crowded schedule than others and consequently those trucks receive the "red ball" through the shop.

WHEN the Horlacher driver comes to work, which is usually in the evening he finds his truck at the platform inspected, gassed and loaded ready to go. A shuttle driver has taken it from the shop to the loading platform at loading time. The dispatcher at the loading platform sees to it that a truck capable of carrying the load is there on time, be it truck No. 9 or truck No. 73. If for some reason the usual driver is not there he must see to it that an experienced substitute is available. Of this system Mr. Clark says, "We are set up so that if one man falls down the next one hollers."

The driver starts on his run. If he breaks down he first telephones the shop and then if it is something small, attempts a repair. Meantime an emergency crew from the shop is going to his rescue. The crew comes in a truck capable of replacing the disabled one if it cannot get it going promptly. The breakdowns happen very seldom as the figures have shown. When they do, the drivers call not only the shop but also the other drivers to whom they are carrying their loads. Trucks are spotted at strategic points in the outlying districts as spares. This prevents delay in the case of a breakdown occurring many miles from the emergency crew.



Comparative size of generators used in Horlacher trucks. The large model on the right now replaces the smaller unit

IF nothing unusual happens the driver completes his run and returns to the shop. He reports to a clerk. Any comments he has to make are taken down by the clerk. If mechanical work is indicated, but not clearly, the driver immediately is interviewed by the foreman.

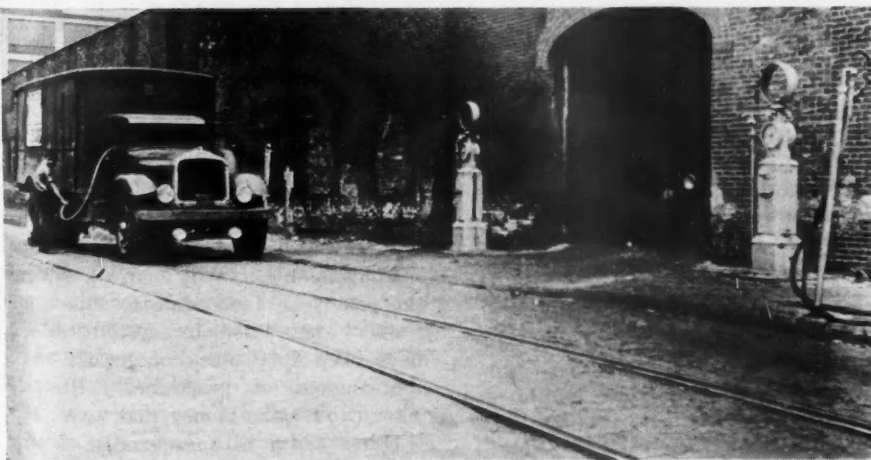
An ex-driver who now acts as an inspector appears at loading points without notice at which times he helps the drivers iron out problems arising from the load transfer. The drivers' time of arrival is of course, checked. This inspector occasionally rides with a driver when for some reason he is running late.

The burden of proof of promptness is never heavy for the driver because the drivers punch time clocks in much the same manner a night watchman does. The clocks are located in theaters along the route so the time of arrival is accurately recorded.

IF we have created the impression that the shop itself is something to be skipped by, giving our attention to other things, we have done so unintentionally. The shop is clean, well lighted and fairly well equipped. More equipment is about to be installed. But the point we do want to make is that while the shop is an excellent one there is nothing remarkable about it below the level of the shortest mechanic's shoulders. The truly remarkable part of the shop is in the heads of the men who work there.

The Clark brothers feel that no story of their operation is complete without some mention of morale. They be-

(TURN TO PAGE 53, PLEASE)



Two gas pumps assure constant fuel supply should one or the other fail

Halt the Hijackers

Study of Hijacking Results in
Codes of Conduct for Drivers
And Operators to Aid Policing

By **GEORGE T. HOOK**

Editor, Commercial Car Journal



Code of Conduct for Operators

1. **COOPERATE** with drivers by furnishing them good equipment, kept in good order to eliminate tie-ups on the road where anything might happen.
2. **BODIES** should be completely enclosed and doors securely locked. Tailgate should lap under doors. If it laps over the chain should be secured by a padlock. (All this to make it more difficult for thieves to get at cargo.)
3. **PROVIDE** truck with protective devices. (Burglar alarms and tear gas sprays are now on the market.)
4. **ELIMINATE** running boards and equip cab with bullet-proof glass.
5. **INSTALL** a recording device to show mileage run and stops made. (By checking elapsed time and mileage and where truck was recovered investigators figure they can estimate within a five-mile radius where the cargo was left.)
6. **PAY** living wage and free drivers of incentive to steal and enter into collusion with hijackers.
7. **PENALIZE** with immediate discharge drivers picking up passengers.
8. **CHECK** drivers as to families, previous employers and personal habits. Keep the information indexed.
9. **DON'T** employ a man with a prison record unless you can convince yourself with proof that he has gone straight.
10. **DON'T** inflict cash penalties on employees for losses. Preferable procedure is: first offense—three working-day suspension; second offense—seven working-day suspension; third offense—immediate discharge. Post these regulations on bulletin board and file a copy signed by all employees.

Code of Conduct for Drivers

1. **SAFETY** first—at all times.
2. **DON'T** leave truck unguarded when stopping for gas or any other purpose. If in convoy of two or more trucks and stop for any purpose is made, keep one man on guard at trucks. Upon return make sure locks are secured and cargo is undisturbed.
3. **EVERY** 60 miles stop in safe spot and make examination to see that tarpaulin is undisturbed or locks secure. (This procedure will help establish approximate place of theft.)
4. **CARRY** a watch and keep a log to record where, when and why stopped.
5. **DON'T** talk shop with the other drivers. (You can't tell whose ears will hear a bit of information which may not seem important to you but which may be a tipoff.)
6. **BE** suspicious of strangers who inquire the nature of your owner's business and the load you are hauling.
7. **NEVER** take on a passenger.
8. **WHEN** stopped by hijackers keep as cool and collected as possible, and keep eyes open. Get the make, model and license of the hijackers' car. Note the hijackers' physical characteristics, their conversation and peculiarities of speech.
9. **WHILE** in custody concentrate your attention on your surroundings. If in a car try to judge its speed and length of time elapsed between your entering and being turned loose. Note road conditions, traffic lights, turns, etc.
10. **BE** careful to whom you talk after being hijacked. The less publicity the better for your employer. (Don't be afraid to make an identification as the suspect can't tell who identified him.)

SINCE repeal hijackers have switched their attention from bootleg booze to valuable cargoes handled by legitimate haulers and they are doing a million-dollar business along the Atlantic Coast.

The menace to transportation of valuable cargoes is so great that in various cities the police authorities and truckmen are working together in close harmony to rid the roads of these modern Jesse James', and to make it tougher for them to get away with their racket.

It's a costly menace because if the hijackers aren't soon curbed the already sky-high insurance rates on the valuable cargoes which hijackers specialize in will become absolutely prohibitive and tend to drive the transportation of such merchandise from the highways. What has happened in the case of cigarettes, illustrates the trend perfectly.

TWO years ago the insurance rate on cigarettes was from 1 to 1¼ per cent of the gross receipts. That is, the premium on a \$20,000 load of fags would range from \$200 to \$250. Today the rate is 5 per cent of the gross receipts, and no insurance is granted unless the operator first agrees to (a) install an approved burglar alarm on the truck; (b) install a bullet-proof type of cab, and (c) man the truck with two men. And even so, one prominent insurance broker advised the writer, if you meet all these regulations and apply for insurance you are liable to be told that "we are not soliciting this type of business."

AND you can't blame the insurance companies. Why? Well, during the past year (according to this same broker) their losses in cigarettes alone have been 2000 per cent greater than the amount of premiums collected! They can't make money that way.

Other types of merchandise which attract the hijackers are: silk and



rayon in finished and unfinished states; silk hosiery; candy and chewing gum. Under the heading of miscellaneous are found such articles as shoes, perfumes, dress goods, table and bed linens, patent medicines and flavoring extracts. The miscellaneous group isn't very much of a magnet. Hijackers are attracted mostly by merchandise which is not easily traced, which averages high on a value per pound basis, which has a ready sale, and which, therefore, can be quickly disposed of.

THE writer has just completed a study of truck hijacking. The matter was approached constructively with the intention of developing ideas which would help to:

1. Minimize the chances of trucks being hijacked;
2. Make it more difficult for hijackers to get at the cargo, and
3. Increase the chances of catching the hijackers.

The study brought the writer into contact with truck operators who have

been victims of hijackers, with insurance adjustors and with police. Conversations and discussions with all three groups led to the formulation of a Code of Conduct for Operators, and a Code of Conduct for Drivers. The purpose of these two codes is to realize the three points in the paragraph above.

POLICE and insurance people approve the codes of conduct without qualification because they will tend to reduce temptation, both of employees

and hijackers, and give them the sort of cooperation from operators and their drivers which they believe to be absolutely necessary.

The reaction of operators is well expressed by Jas. A. Barnwell of Barnwell Bros., Inc., Burlington, N. C. This long distance hauler has been the victim of hijackers and has been compelled to give hijacking a great deal of thought. Therefore his reaction may be considered typical of all those haulers who are vitally concerned with truck hijacking.

TAKING up the Code of Conduct for Operators, Mr. Barnwell had something to say on each of the 10 items. He discussed them thus:

"1. Pertaining to equipment in good order I believe there is much to be said in regard to this. Any breakdown on the road of a large truck naturally draws a crowd of curious persons. These people ask questions and if the driver is not well on his job he is likely to reveal something important. We know of cases where spectators even went into the back end of the truck.

"2. Your version of locking doors and tail gates is quite correct for the above reasons. A door that is not locked is very likely to jar loose and come open, exposing the contents of the truck to the public.

"3. We have already installed on our equipment a new burglar alarm system which we believe to be very good. However, it is a very delicate system and very hard to keep in operation on runs of 550 miles like ours. As for tear gas sprays, we do not know anything about them, and we do not believe they would be very effective unless the cab were made bullet proof. The burglar alarm should not be such as would have to be set off by the driver. Past experience of other truckers shows this to be very ineffective and very dangerous. The highway thieves are organized and they study and understand their business. They are naturally well-acquainted with all the devices with which a truck may be equipped and, of course, they make it their business to find the flaw, if there is one, in each device. If the alarm is controlled by the driver they would order him not to set it off. In cases where drivers have deliberately set off the alarm we know that the hijackers have cold-bloodedly struck them down. The alarm system which we are using is not under control of the driver.

"4. The idea for elimination of running boards is good. A bullet-proof cab, however, adds so much to the weight of the truck and is so uncomfortable for drivers, that they are inclined to be dissatisfied and drive with doors open, etc., whenever possible,

Apply the Remedy

HIJACKING along the Atlantic is laid to gangs in Philadelphia, Baltimore, Newark, Trenton, Passaic and Paterson. To beat them it is necessary to (1) Minimize the chances of trucks being hijacked, (2) Make it more difficult for hijackers to get at the cargo, (3) Increase the chances of catching the hijackers.

Observance of the Code of Conduct for Operators and the Code of Conduct for Drivers will go a long way toward halting the hijackers.

thereby taking chances which are undesirable to the operator.

"5. By installing a device to show mileage run and stops made, one can no doubt trace the operations of the truck to some extent, but these devices are so expensive that in lots of cases installation is prohibitive. However, I believe the idea good when it is possible to use it.

"6. The fact that many truckers pay wages so low a driver cannot make an honest living has naturally played right into the hands of thieves, and has largely contributed to the strong hold which they now have. We believe the paying of living salaries is necessary to get the full cooperation of the drivers, and without this practically any truck operation is hopeless.

"7. Your idea of discharging a driver who offers to pick up a passenger should always be carried out as this is extremely dangerous from every angle, and is strictly prohibited by practically all insurance carriers.

"8. We believe it very necessary to keep up with the driver's living conditions. By doing this a personal interest is shown in the driver's welfare, and at the same time one can quickly detect a man who is living beyond his means, and by checking up it would be easy to find whether he is receiving outside compensation.

"9. Our company has had one or two experiences employing converted petty criminals and we believe it is not safe. The best policy is never to employ men of this type in the trucking business. Even though they go straight the other employees will eventually find out about their records and will cultivate the feeling that it is easy to get by or else will be leery of the men themselves.

"10. Your suggestion with regard to penalties is one we heartily agree with and which we believe can safely be followed at all times. We have tried this system in our own organization and find it works very satisfactorily."

THIS operator approved the Code of Conduct for Drivers and made particular comment about item 10, which

deals with publicity. He said:

"Publicity has been the direct cause in one or two cases of our company not being able to recover goods after a theft, due to the fact that all inside information was made public in newspapers. This information was not discussed at random but was picked up by newspapermen when police were questioning the drivers. We believe this is very bad in some cases, but we have no suggestions."

One last suggestion, however, was made by this experienced operator, when he urged that operators have regular meetings with their drivers and at such meetings ask the drivers for their opinions and suggestions. "We have found this practice beneficial," he said, "as the drivers traveling the road daily are naturally in a position to get first-hand ideas."

Organized efforts on the part of operators and police authorities is necessary because the hijackers appear to be so well organized that only well-directed efforts will curb their activities.

HIJACKING along the Atlantic Coast is laid to gangs in Philadelphia, Baltimore, Newark, Trenton, Passaic and Paterson. They are known to have women in their employ. The dames patronize the road-side cafes where truck drivers en route are known to congregate. They become familiar with the drivers and pass tips along to the hijackers.

Only good organization can account for the fact that hijackers can spot the trucks carrying the valuable cargoes, and know what route or routes they intend to travel. Out of the thousands of trucks traveling hundreds of routes nightly, they pick out the prizes in spite of the secrecy of operators. And when they waylay or draw up alongside the prize truck they come well prepared.

WAYLAYING has developed some tricks. There is that one, for instance, where the hijackers placed their own truck on the highway in such a position that it looked like an accident. They placed flares around to make things look real. Passing vehicles proceeded with caution when they approached the scene. When the truck they were looking for came along, it was easy prey. The driver was, of course, unsuspecting. It was a new one on him. And, while other vehicles passed back and forth, the hijackers calmly transferred the valuable cargo to their trucks after rearranging the flares so that the waylaid truck appeared to be the one in trouble. This made the transfer look legitimate.

Then there's the usual case where a

(Turn to page 52, please)

Helper Springs Cut Costs

Here Are the Installation Details
Which Enabled a For-Hire Fleet Op-
erator to Increase Earning Powers

By
STANLEY GERSTIN

THE truck at the platform was being loaded rather heavily. As each case of goods was moved onto the van, it sank lower and lower. It was a two-ton truck, I was informed. Well, they already had more than two tons on it—that was clear. Yes, inquiry revealed that it had four to five tons in it just as the loading job came to an end. Five tons is a lot of load for a two-ton truck, too much load it seemed. What would the boss have to say about it?

The "boss" had a lot to say about it. It was a two-ton—but equipped for five tons. Helper springs, he said. Helper springs and oversize tires do the trick. Well, helper springs on a truck are not uncommon—most trucks have them as a safety factor. But the Bernard J. Reilly Auto Transfer Co., Phillipsburg, N. J., have their trucks equipped with a definite purpose in mind. They calculated their trucks' capacity and with knowledge of the safe axle-load, proceeded to convert a two-ton into a five-ton, and a five-ton into an eight-ton. Saves money. Saves trucks. Saves extra drivers, helpers and maintenance costs.

Now the company operates 13 trucks



B. J. Reilly: "We keep operating costs down by a third."

that have a gross manufacturers' tonnage rating of 41 tons, but their tonnage capacity as they are being op-

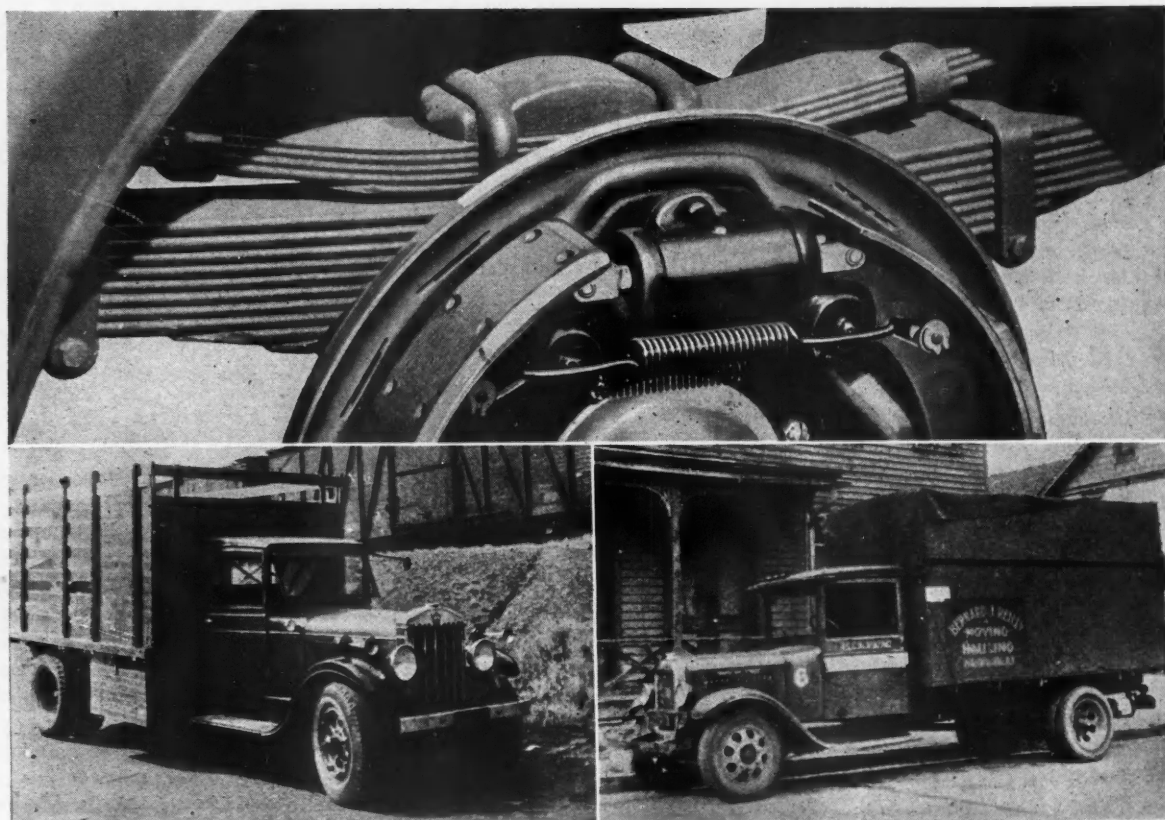
erated today is 77 tons, or an additional 36 tons carrying capacity distributed among the 13 trucks. Under ordinary operating conditions this extra tonnage would require three to five additional trucks, as well as drivers, helpers, parts, etc. Mr. Reilly figures that this additional equipment would cost the company at least one-third more than their present yearly operating costs of \$24,860. How he effects this big saving through increasing the payload capacity of his trucks without overloading the engine or axle is explained graphically in the accompanying chart. Says Fleetman Reilly:

"I'VE always used helper springs on my trucks, and I find that they increase the tonnage capacity of our trucks by 1½ to three tons. You can imagine what it would mean to us if we had to buy another two-ton truck to carry that tonnage, hire a driver and helper and maintain the unit in running order. As it is, our units all carry more than their rating and by increasing their carrying capacity to a safe limit under the axle load, we effect big savings. This saving amounts to well over \$8,000 yearly in operating

Technical Details of Reilly's Helper Spring Installations

This table gives truck ratings when purchased, their present capacity with helper springs, size of springs, number of leaves, tire changes and cost of installation of tires and springs together with labor. You can figure for yourself, on the basis of your own trucking rates, what returns this extra pay load would mean to you if your own trucks were equipped for the same definite purpose.

Make	Model	Year	Mfrs' Rate of Capacity	Present Capacity	Size Helper Springs	No. Leaves	TIRE EQUIPMENT—FRONT AND REAR			Mileage	Installation Cost Tires-Spgs.-Labor
							From		To		
GMC.....	(4) T-30	1930	2-Ton	4-5-Ton	2¾ in.	4	P30x5	DP30x5 (8 ply)	30x5 (10 ply)	45,000	\$65
	(1) T-42	1930	3-Ton	5-Ton	3 in.	4	P32x6	DP32x6 (8 ply)	32x6 (10 ply) High Press.	57,000	75
	(1) T-30	1929	2-Ton	4-5-Ton	2¾ in.	4	P30x5	DP30x5 (8 ply)	30x5 (10 ply)	275,000	65
Reo.....	(2) 4-H	1932	4-Ton	7-Ton	3½ in.	5	B9.00x20	DB9.00x20	36x8 High Pressure	25,090	80
	(1) G-C	1930	3-Ton	5½-Ton	3 in.	4	P32x6	DP32x6 (8 ply)	32x6 (10 ply) High Press.	43,700	75
Hahn.....	(1) ?	1926	5-Ton	7-8-Ton	3½ in.	5	P36x8	DP36x8	36x8 High Pressure	107,500	130
	(1) 67	1931	5-Ton	7-8-Ton	3½ in.	5	P36x8	DP36x8	36x8 High Pressure	201,530	130
Mack.....	(1) AC	1926	5-Ton	7-8-Ton	3½ in.	5	P36x6	DP36x6	36x8 High Pressure	100,564	130



Top: A 5-leaf helper spring installation built above the regular spring. **Left:** Over-size tires and helper springs add 3-tons to this truck's pay-load capacity. **Right:** 275,000 miles since 1929 with 5-ton loads on a 2-tonner speaks well for the idea judging from this truck

costs on the basis of our present yearly costs of \$24,859.42, which includes fuel, repairs, parts, tires, labor, etc., to say nothing of the expense of buying additional units.

"It is possible that some operators may find conditioning their trucks as we do ours is not possible because of a distribution problem. However, equipped as we are, fast store-door delivery is found practicable."

FLEETMAN REILLY figures that a 5-ton truck equipped with helper springs to carry 8 tons pays for itself in a very short time. His investment in equipment to carry the additional three tons amounts to approximately \$130 which is paid back in about 20,000 revenue miles. From then on, the extra load capacity pays for the truck itself.

Three truck sizes are used to carry on the transfer business profitably. They are two, three and five-ton units equipped to haul economically the business this company obtains. Trucks equipped with helper springs which make possible such tremendous savings to this operator are five 2-ton, two 3-ton, two 4-ton, three 5-ton and one 1½-ton units. The 2-tonners are equipped to carry from 4 to 5 tons, the 3-tonner will carry from 5 to 5½ tons, the five-ton trucks now carry 7 to 8 tons, or a total of 36 tons extra in all.

"I Remember When . . ."

SEVERAL interesting highlights have occurred during the 21 years Fleetman Reilly has been in the trucking business. "Better roads," he says, "and engine refinements give nowhere near the trouble operators had in my day. Even granting the motor was okay, roads were such that we never knew, when starting out, if we would reach our destination or not. All we had to travel over were the rutted wagon roads then in existence."

In 1913 a 2-cylinder Kohler was driven from Phillipsburg to Bethlehem in 12 hours for what marked the birth of long distance hauling in that city. In 1919 Mr. Reilly drove a 4-cylinder, 2-ton Federal to New York City in 7 hours for what was considered record time. On that trip the roads were so muddy that he could not drive through. Along came a fleet of army trucks, coupled to one another, pushing and pulling. The army trucks wore two grooves in the mud 18 in. deep through which Reilly drove.

Another time on a trip to Philadelphia, rain washed out part of a road. Solid tires offered poor traction and the truck sank into the mud to the axle. Mr. Reilly was obliged to rip up a fence bordering a farm, construct a plank road and replace the fence railings when he got out of the hole.

THE chart shows that a four-leaf helper spring will allow loading up to the axle rating and assure a safe clearance between the body and top of the tire. The additional load is about 2 tons. At the rate the company sometimes quotes for long hauls (40 cents per hundred), this additional payload is worth \$8. Whatever profit is left from this amount after deducting cost of handling, etc., in a short time pays for the helper springs and heavier tire equipment as well as for the cost of maintaining the truck.

The number of leaves in the springs are determined by the number necessary to maintain a 7-in. clearance between the bottom of the body and the top of the tire when the truck is empty. For instance, four leaves were necessary to maintain this clearance on the 2-ton trucks. When loaded with 5 tons of freight, this clearance is reduced to 4 in. Stiff springs are used.

THE company hauls piping, steel plates, wire, paper, boilers, machinery and household furnishing (by contract at rates better than the railroads), employs 17 drivers and helpers, a mechanic, and does its own servicing except for major repairs. With this heavy freight to haul, Fleetman Reilly believe that his company is getting about all the service that can be

(TURN TO PAGE 53, PLEASE)



Shippers Propose Truck Bill

**National Industrial Traffic League
Would Replace Code With Federal Reg-
ulation More Liberal Than Eastman's**

THE legislative wheels in Washington never stop grinding, even during the heat of the summer. Washington gets rid of its Congress periodically, but the unofficial legislators continue at their jobs, in and out of season, preparing to throw into the hopper a thousand or more bills at the first sound of the gavel on Capitol Hill.

It is an old Washington game, wherein any group, with a substantial number of votes, may play a part. Hundreds of national organizations have their headquarters in the shadow of the White House where they exercise no little influence over legislation. In-

deed, they largely frame the bills upon which Congress is asked to act.

A FEW steps from the Executive offices is the Transportation Building. There the National Code Authority for the Trucking Industry and the American Trucking Associations, Inc., hold forth. There, too, are the American Railway Association and the Bureau of Railway Economics and other railway organizations. On another floor, the shippers maintain what might be termed a lobby, and scattered through the building are ICC practi-

tioners and "experts" in transportation matters who will represent any client, if the fee is sufficient.

IT is obvious that some of these organizations, all housed in the same building, are working at cross purposes. While the trucking code is being administered from offices on the sixth and seventh floors, in a far wing on the eighth floor plans are being made to replace the code by another form of regulation. When the next Congress convenes a bill will be submitted—and it is anticipated that it will have a substantial backing to place interstate trucking operations of



Transportation Building

common and contract carriers under Federal control. It has already been written and, surprising as it may seem, by the representatives of shippers.

THE Trucking Industry, however, need not be alarmed over this attempt to bring about Federal regulation. It has become hardened to such efforts. In the last session, the Rayburn bill died in committee after several weeks of hearings at which all the powerful proponents were marshalled in vigorous attack on the "unregulated" trucks. Then, the Eastman bill, on the recommendation of the Federal Co-ordinator and the approval of the Interstate Commerce Commission, came forth with a plan for regulation, generally conceded to have had Administration backing. But that measure didn't get to first base. Mr. Eastman most assuredly will renew his efforts to carry out his conviction that the solution of the transportation problem demands regulation of trucking by the ICC.

TO only a few in the industry was acceptable either the Rayburn or Eastman bills. The former was drafted largely by the National Association of Railroad and Utilities Commissioners. Profiting by the criticism of it, Mr. Eastman patterned his measure along somewhat more liberal lines. Even so, truckmen were not prepared to accept it as a panacea. In the first place, the Eastman bill made it plain that highway transportation was still the step-child in the transportation family. Congress had expressed its tender concern for water and rail transportation, promising to "foster and preserve" the same "in full vigor." No such solicitude was expressed about the trucks. It was generally considered that the "step-child" would receive rough handling from its foster-parents, the ICC. In fact, some operators went so far as to approve regulation by a Federal

They Wrote the Bill

REPRESENTATIVES of the shippers who wrote the trucking regulations to be presented at the next session of Congress are members of the National Industrial Traffic League. The dope on this league, as presented by C. E. Childe, chairman of the highway transportation committee, before the House Interstate Commerce Committee at the time of the Rayburn Bill hearings, is as follows:

"The National Industrial Traffic League, as its name implies, is a national organization of firms and corporations which are engaged in the shipment and receipt of commodities, and commercial trade and traffic organizations which are interested in the maintenance of efficient and economic transportation for the commerce of the country. It was organized in 1907, shortly after the passage of the Hepburn Act.

"Directly and indirectly, the league represents several hundred thousand shippers. It is the only national organization representing the shippers of the United States.

"**T**HE object of the league, according to its Constitution, shall be to promote adequate transportation and to this end: To interchange ideas and information concerning traffic and transportation matters; to cooperate with the Interstate Commerce Commission and other regulatory bodies, both Federal and state, and the transportation companies, in developing a thorough understanding by the public, the carriers and the National and State Governments of the transportation requirements of industry; to obtain legislation that will be helpful to commerce, and to secure the modification of laws, rulings and regulations that that may be found harmful; and to promote cordial relations between shippers and carriers. The activities of the league shall be confined to activities of national interest."

SINCE 1921, the league has had a standing committee on highway transportation charged with the responsibility of observing and making a study of the development of motor transportation on the public highways. In its annual reports of 1928, 1931 and 1933, the League took the stand that "while experience may show that the interstate transportation of property by motor vehicles operating as common carriers on the public highways should be regulated, there does not now appear to be public need therefor."

At a meeting this year, however, the League reversed its stand. In fact, many of its directors were prepared to endorse the Eastman Bill, but they were prevailed upon to hold off. The present draft will be offered as a compromise.



Interstate Commerce Building

agency provided that agency would not approach highway problems with a railroad bias.

THE provision that the Commission could determine and prescribe maximum and minimum rates seemed to cast a shadow over the entire future of trucking operations. It was thought that such power could be used to "freeze out" truck competition, in the event that such were necessary to "protect" the railroads. Trucking rates might be lifted to unjust and unreasonable levels. Furthermore, the power of suspension of rates might be utilized to ruin the motor vehicle carriers. These, and many more, were the objections of truck operators to the proposal of Mr. Eastman.

Now, the shippers, out of the goodness of their hearts, propose to deal more tenderly with the trucks. Their bill would declare it to be "the policy of Congress to promote and encourage interstate and foreign commerce by motor carriers in such manner as to develop and maintain economical and efficient highway transportation." With this preamble, the bill goes on for thousands of words, following, in part, the language of the Eastman bill, but differing widely in many essential points.

FIRST and foremost, it proposes the creation of a new agency, the Highway Transportation Commission, to be composed of five members appointed by the President, with the advice and consent of the Senate, to serve for seven years, each at a salary of \$10,000 a year. This commission would have its own staff, presumably all trained in the intricacies of trucking operations and free from the bias attributed to the Interstate Commerce Commission. That would give trucking a fair deal.

While the bill contemplates jurisdiction
(TURN TO PAGE 56, PLEASE)

New Products on Parade

Descriptions of the Latest Items
Put on the Truck Market by Equip-
ment and Specialty Manufacturers

New Type Fluid Hose

A new type of paint fluid hose, which, its makers say, will resist all commercial solvents and last four to twenty times longer than rubber compounded hose, is being produced by the Electric Hose and Rubber Co., Wilmington, Del.

The tube of "electric" (DB type) paint fluid hose is made of a newly developed compound possessing all of the strength and flexibility of rubber, but being free of the tendency to soften, slough off, break apart or disintegrate when in contact with oils or solvents.

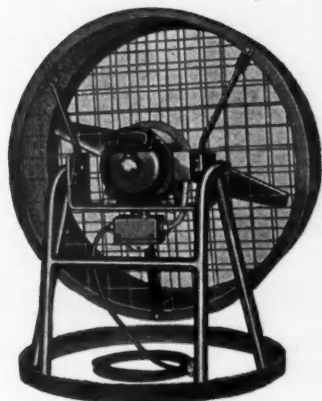
Couplings hold the hose permanently because the special composition tube stays in place and maintains a firm grip on the coupling at all times.

The hose is extremely light and flexible and is available in $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$ and $\frac{1}{2}$ in. inside diameter, and can be furnished in lengths up to 500 ft.

Bendix Ventilating Fans

A complete line of ventilating fans for garages is announced by the Bendix Products Corp., South Bend, Ind. A duct system of ventilation for engine exhausts is also included in this new group.

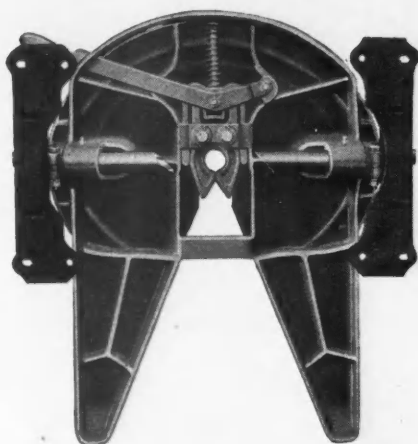
The fans supply every need. There are wall fans, ceiling fans, floor fans and fans for duct systems. One of the leaders in the line is the Bendix floor level "Aero-spot." The blast from this fan is effective at a distance of 60 ft. for the E-1 model and at a distance of 90 ft. for the E-2 model. When installed on the floor its blast covers a width of 45 ft. for the E-1 and a width of 60 ft. for the E-2. The direction of the blast can be adjusted from horizontal to vertical. The fan is portable,



but can be mounted. The E-1 unit can be operated 5 $\frac{3}{4}$ hours on one kilowatt hour and the E-2 model can be operated over three hours on one kilowatt hour.

Austin Fifth Wheel

A new gravity cushioned fifth wheel unit is being produced by the Austin Trailer Equipment Co., Muskegon, Mich. The



crankshaft of the new unit is carried by the crank members suspended transversally from the two horizontal trunnions, permitting an arcular movement of the crankshaft. There is a universal action of the side mounting brackets. These two factors produce a self-adjusting cradle cushion.

The company states that all shocks are eliminated and that the clutch load is reduced 50 per cent by relaying the starting action of the trailer. Pressure and thrusts transmitted to the differential drive are removed.

Thompson Cylinder Sleeves

Dry cylinder sleeves have been added by Thompson Products, Inc., Cleveland, as a companion line to the company's pistons and pins, for distribution by automotive parts jobbers. Approximately 30 sleeve sizes are now available for initial stocks at Cleveland and 12 factory branches.

Fuller Remote Control

The Fuller Mfg. Co., Kalamazoo, Mich., announces a remote control for operating the transmissions of trucks of cab over the engine design or any installation where the operator's position is ahead of the transmission and to one side of the engine. The RC control can be used with any Fuller transmission having a two-piece control housing.

The gear selector mechanism is enclosed in the control housing, mounted on the transmission, and it replaces the conventional gear shift lever housing assembly. No adjustments are required for correct positioning. Ball-type ends on the selector shaft and drag link prevent binding of moving parts, and the positions and movements are the same as standard transmissions.

Frame twists do not easily affect the ease of gear selection. The allowable installation misalignment is one ft. per in. By machining the gear shift lever housing it can be bolted to support on the engine or the frame side. It can be installed where very little clearance is available.

AC Reflex Signal

A new series of shatterproof reflex signals in red, green, amber and white developed for trucks and trailers of all types to meet the legal requirements of all states, is being marketed by the AC Spark Plug Co. The new reflectors are a companion line to the regular AC reflex signals.

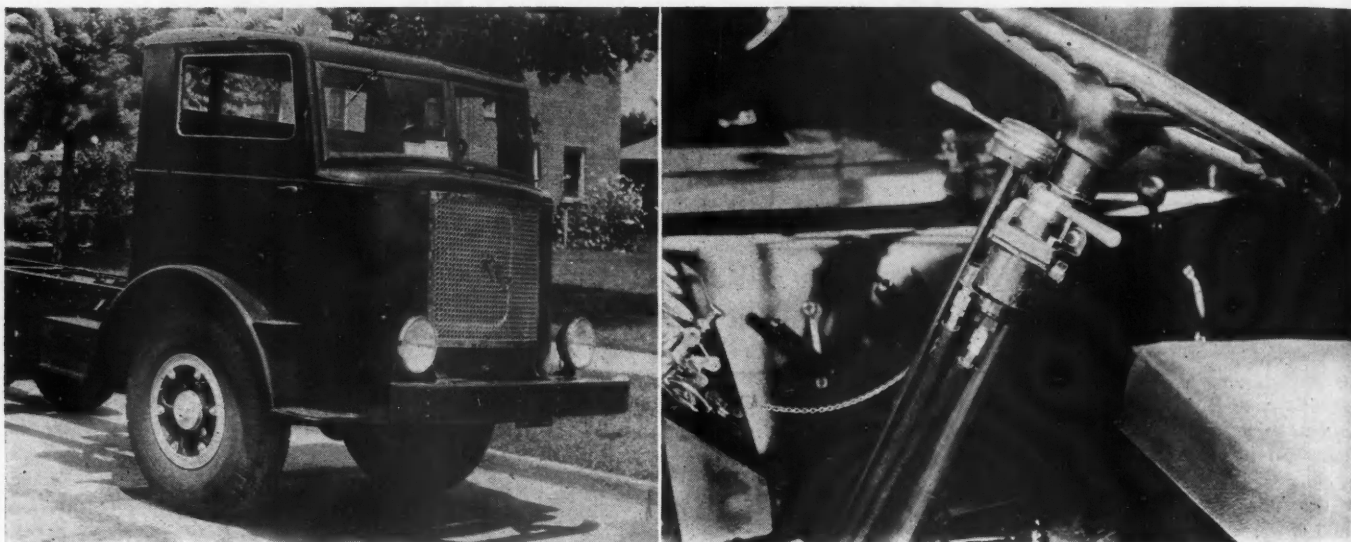
The lens is silver plated on the back to assure maximum visibility and reflection. The silver is protected by a copper plating and a sprayed coat of aluminum lacquer.

The case into which the reflector is fitted is filled with asphalt. This prevents

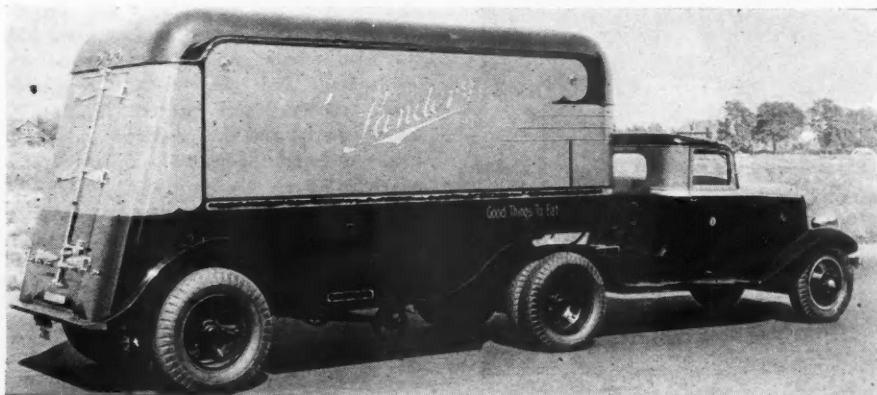


shattering should the lens be broken, and preserves the reflecting characteristics of the signal even though the lens should be badly fractured. The asphalt also protects the silvered surface against water.

. . . . New Products on Parade



New FWD Cab-over-engine design on a 6-wheeler



Streamlined trailer equipment enters the refrigeration field with this modern unit just placed in operation by Fred Sanders, Detroit, to speed delivery of bulk ice cream daily to the 15 Sanders retail outlets. This new type of traveling refrigerator was designed and built by the Fruehauf Trailer Company, Detroit. The trailer body is completely insulated throughout and measures 18 ft. x 64½ in. wide inside x 72 in. high. Double 15 in. doors set flush in the sloping rear end assure protection to the load from weather conditions. Five in. of Dry Zero is placed in the ends, sides and roof while the floor is insulated with a 4 in. layer of cork. In addition, 3 dry ice bunkers in the interior insure uniform temperature.

Available New Trucks

A NEW series of motor truck models has been developed by the Available Truck Co., Chicago. In the newly designed trucks, the driver's seat is placed beside the motor. This new design achieves the 1/3-2/3 distribution of weight.

Maximum accessibility of power plant was achieved by providing a grille that can be readily removed, giving access to the radiator and motor, permitting easy removal. Cab temperature is controlled by enclosing the motor in a wind tunnel with removable sides to permit access to valves, carburetor, pump and ignition. The entire hood around the motor is insulated with fireproof material of low conductivity.

All units employed in the assembly are of conventional type. No special



Available new truck design with driver's seat beside the motor to achieve 1/3-2/3 distribution of weight

controls are required. The driver's seat has been raised only 2 in. Visibility has been increased, the range of vision being well forward. Ventilation

has been assured by hinging the windshield at the top and by placing vents on each side of the cab near the floor board.

FWD Cab Over Engine

A NEW FWD cab over the engine truck design has made its appearance. The unit is a 40,000-lb. six-wheeler powered with a Waukesha 125 engine. The bore of this engine is 4¾ in., and the stroke is 5⅛ in. It develops 125 hp. at 2500 r.p.m.

The transmission is the standard FWD transmission with five speeds forward. An oil-type clutch is used. Westinghouse air brakes are standard equipment, the brake drums measuring 17¼ in. x 4 in. The wheels are equipped with 12.00 x 20 single balloon tires. The axle tread is 70¾ in., and the wheelbase is 161 in. The power is distributed to the front and first rear axle, these two axles being of the single-reduction, full-floating type.

. . . . New Products on Parade

Nichols-Lintern Ventilator

A new principle in ventilation is being utilized by some of the truck manufacturers and cab builders, called the "Aero-Way" System and manufactured by the Nichols-Lintern Company of Cleveland.

The illustrations show an installation on a cab over engine General Motors Truck Cab. The Exhaust Louvers are located in a patented position at the front forward wall of the vehicle. At this point a very high air exhaust is possible due to the low pressure area created in the forward movement of the vehicle.

Mounted beneath the Louvers is a weatherproof exhaust box at which point any water entering is drained off above the windshield.

The air is drawn from the cab through Grills located in the cab roof, an air channel connecting them with the exhaust box made by the inner and outer roof panel.

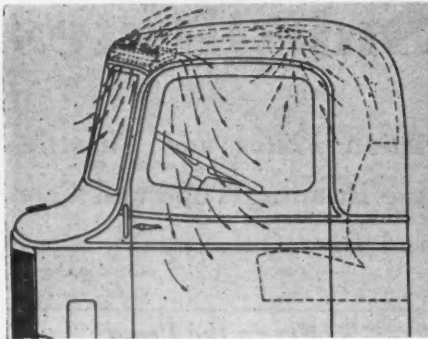
The air in the cab is completely changed by this method several times a minute at comparatively low speeds. Its action is not affected by open windows and other conditions that affect the ordinary roof ventilator.

The System is entirely weatherproof and can be used throughout the year.

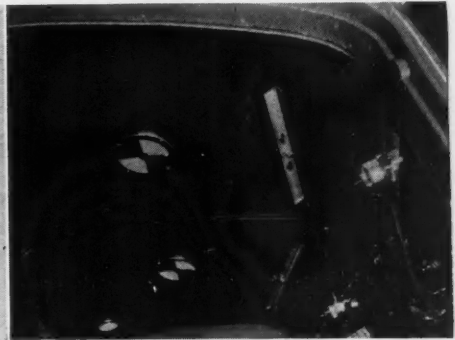
A weatherproof intake is combined with the above, with two control doors mounted above the windshield, see illustration, in some installations. This is particularly valuable in the hot weather.

The "Aero-Way" system of ventilating is not confined to truck cabs, being applicable to panel bodies and buses.

See Dodge 1½-ton truck description on page 38.



Nichols-Lintern Ventilator



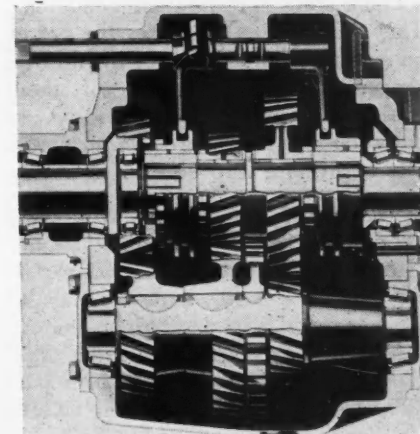
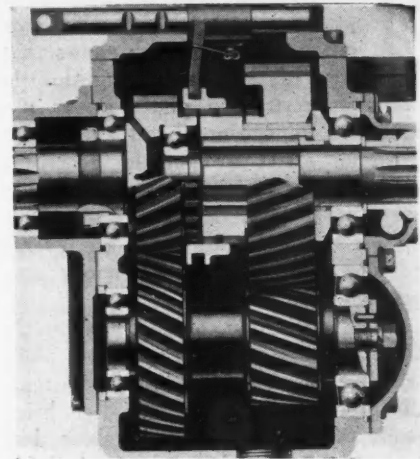
Spicer Transmissions

SPICER MFG. CORP., Toledo, has developed a series of new two and three-speed auxiliary transmissions, providing increased pulling power and a wider range of speeds.

A two-speed (underdrive or overdrive), also three-speed (over and underdrive) auxiliary transmission is used back of the main four or five-speed transmission. Where faster speeds only are desired, a two-speed auxiliary transmission with an overdrive speed is available.

The three-speed auxiliary transmission is invaluable when trucks are used over bad roads, extra high speed is made available when running light on smooth roads, low-low speed for hard pulling, and one of seven different intermediate speeds to meet any other road or load condition.

Since this auxiliary permits a truck speed of at least one-half as slow as with the main transmission alone, low-low speed give traction for starting in soft ground. It also increases power for hill climbing and acts as a safety brake on the descent. The low-low speed likewise enables the chassis frame to weave slowly on rough roads.



Top: Spicer 2-speed transmission

Below: 3-speed transmission

GMC Driveaway Trucks

GENERAL MOTORS driveaway trucks are hauling new cars to nearby points. The new trucks, which resemble army tanks, are 40 ft. long, weigh 12,000 lb. and are equipped with power brakes, automatic fire extinguishers, fog lights and spot lights. Doors and tops of the compartments open by hydraulic pressure.

These trucks carry four automobiles—two inside the tank and two on top. Ten tons of freight can be hauled on return trips.



GMC 40-ft. driveaway truck carrying two cars inside and two on top

Turn to Page 38 for Additional New Products

Governor Substitutes are N.G.*

Restriction Plates and Throttle Stops
Increase Running Time and Gear Shift-
ing, and Give Questionable Gas Saving

Here's the Proof

THESE comparative results were reached by a careful test of a Ford 1934 sedan delivery using first a restriction plate and then a governor. The gross weight of the vehicle was 3240 lb. Date June 6, 1934.

Maximum Speed			
Restriction Plate		Governor (Set 50 m.p.h.)	
West	East	West	East
56.75	53.50	50	49.75

Acceleration Test			
	Plate	Governor	
10-30 m.p.h.	10 sec.	8.5 sec.	
10-40 m.p.h.	16.7 sec.	13.0 sec.	
10-50 m.p.h.	29.9 sec.	16.6 sec.	

Hill Climbing Test (Hill No. 1)			
Bottom of Hill		Top of Hill	
	Plate	Governor	
20 m.p.h.	21.5 m.p.h.	25.0 m.p.h.	
30 m.p.h.	28.0 m.p.h.	33.0 m.p.h.	

Hill Climbing Test (Hill No. 2)			
Vehicle gross weight 3740 lb.			
Bottom of Hill		Top of Hill	
	Plate	Governor	
20 m.p.h.	16.5 m.p.h.	26.0 m.p.h.	
30 m.p.h.	21.5 m.p.h.	31.5 m.p.h.	
40 m.p.h.	25.0 m.p.h.	37.0 m.p.h.	

THROTTLE stops and restriction plates are not substitutes for governors. Investigation shows that a number of fleets are using throttle stops or restriction plates under the mistaken impression that they achieve governor effect without the necessary investment in governors. Throttle stops and restriction plates do limit speed, but they fall short on several primary points of a satisfactory governing device.

The illustration (Fig. 1) shows a throttle stop and a restriction plate which were made in the shop of a middle western fleet operator. A brief study of these devices will show that in neither one is there any method for compensating for different conditions. They merely give the driver the use of an arbitrary limited part of his throttle range. The characteristics of these two devices are exactly the same, so any reference to a restriction plate will also apply to a throttle stop.

THE first weakness of a restriction plate is in the installation. If the plate is installed to permit 35 m.p.h. with a five-ton load, the truck may be capable of 50 m.p.h. when empty. Similarly when loaded with seven tons, the speed may be reduced to 20 m.p.h. As Mr. A. A. Bull of the Handy Governor Corp. states it, "The weakness of any restriction plate is that it seriously reduces horsepower output and moreover, will not allow a uniform speed except with one fixed load and one fixed road condition."

WITH the 35 m.p.h. restriction plate installed, the truck approaches a hill. It approaches the hill at 35 m.p.h., which is its maximum speed. With no method of compensating for the stiff grade the speed is reduced to 5 m.p.h. where shifting to intermediate speeds or even low gear is necessary. When the shifting begins, the gasoline economy obtained from reduced speed begins to dwindle. If enough intermediate gear work is necessary, it disappears entirely or even becomes a minus quantity, which actually leaves the fleet

operator in the hole as far as gasoline economy is concerned. Of this Mr. D. J. Noland of the Pierce Governor Co. has to say, "A restriction plate is a serious handicap in hilly country because an insufficient amount of gas is admitted to the engine to move the loaded truck up the hill at a satisfactory speed. The loss of momentum with a heavily loaded vehicle sometimes make its difficult to climb the hill even in the lower gears."

MR. BULL adds to this, "On the face of it, it seems rather absurd to purchase vehicles with a given horsepower capacity and then to deliberately reduce the horsepower by application of a restricting plate."

Mr. J. W. Anderson of the Monarch Governor Co. suggests, "The work of a restriction plate could be economically improved by installing an underpowered engine in the vehicle. The results would be the same."

Restriction plates will not give a fixed speed on the level with a constant load. Bucking a head wind with the 35 m.p.h. restriction plate, the speed may be reduced to 25 m.p.h. A tail wind may boost this speed to 45 m.p.h. A governor compensates for such changes the same way it compensates for varying loads in the form of changes of payload or for changes in road grade.



Two models of Hoof Governors

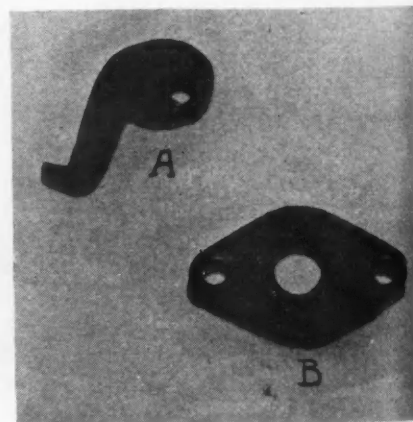
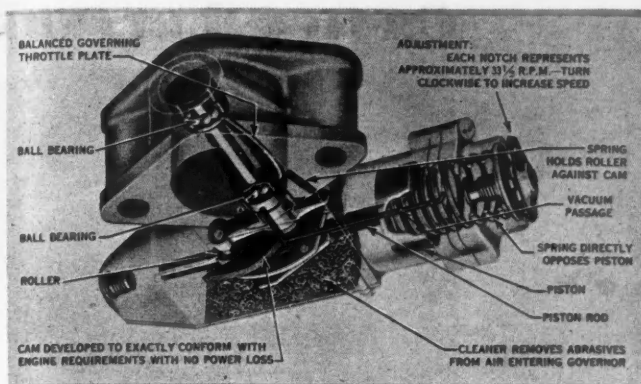
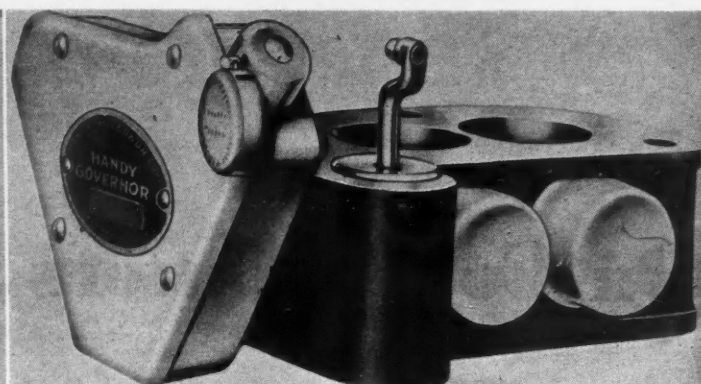


Fig. 1. Throttle stop . . Restriction plate



Cross-section of a Monarch governor



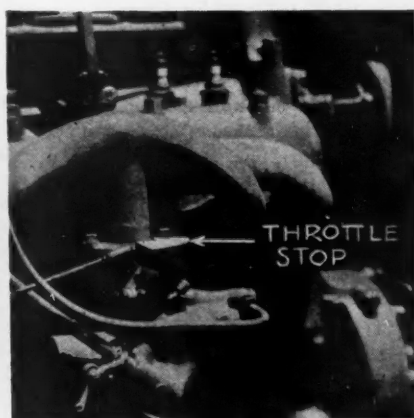
A Handy governor unit

ACELERATION is another operating particular in which the restriction plate is a definite drawback. Speaking of acceleration, Mr. Anderson says: "A governing essential is to permit full throttle on acceleration up to governed speed. This element is forfeited with a restriction plate."

On this same subject Mr. Bull says: "A governor should function in such a way as to allow the normal quick acceleration which the modern high-speed engine needs. The speeds in first and second should not be reduced below the usual shifting point. In this particular the restriction plate is totally deficient."

Restriction plates may be more economical through the acceleration range because of the fixed opening while the governor has a momentary wide opening, but, in addition to the limitations as outlined by Mr. Anderson and Mr. Bull, this particular phase of restriction-plate economy may be offset by the fact that the speeds in first and second are reduced below normal shifting point with the result that the truck is pulling in high gear at low speed, which overloads the engine.

SOME of the new trucks are coming equipped with power jets in the carburetor. The installation of a restriction plate seriously hampers the

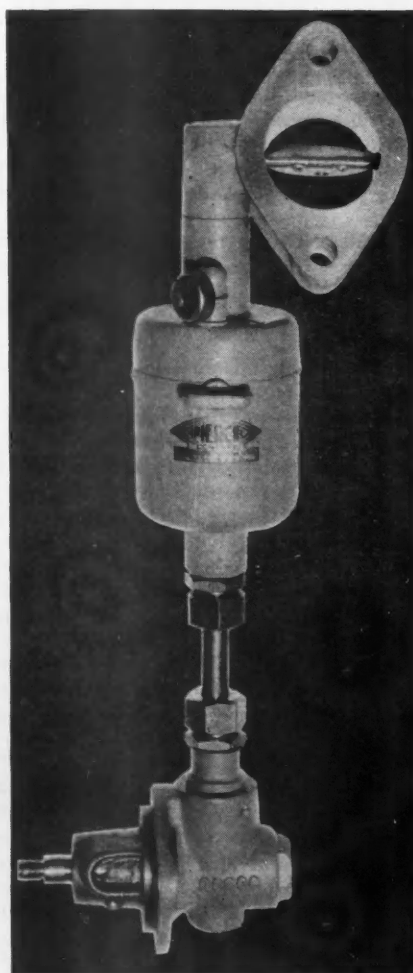


Throttle stop in position

***N. G. = No Good**

THIS article proves that restriction plates and throttle stops are not substitutes for engine governors. Tests show that only the governor permits maximum speed under varying conditions of pay load, compensates for grades as it does for loads, and permits maximum acceleration up to set speed.

Substitutes increase running time, cause more gear shifting and give questionable gasoline saving.



Pierce governor for A and B Fords

work of the power jet. A number of operators even bought new carburetors to get power jet performance. Restriction plates make power jets largely inoperative.

The fleet owner who made the throttle stop and restriction plate, which are illustrated, made a test with the same truck over the same hilly route with first a restriction plate and then with a governor. We have no report on the performance of the truck during the test, but the gasoline mileage increased one mile per gallon when the governor was fitted.

IF the fact that a large passenger car manufacturer equips new cars with a sealed throttle stop that is not to be broken for 500 to 1000 miles be considered evidence that this device is efficient for truck service, read Mr. Noland's comment on this practice:

"This is not so bad in the case of such vehicles, because they are not heavily loaded and it is a safety factor to prevent damaging the engine. On a truck, however, a different condition exists as the governor is to be left on the truck for its entire life, and if the governor is not responsive to variation in engine loads and capable of maintaining uniform speed regardless of whether the vehicle is traveling on level ground or on a hill, the truck's efficiency will be seriously hampered."

Mr. Bull reduces the discussion to essentials when he says, "Before considering what, if any, value they (restriction plates) possess, it is first necessary to determine what objective is sought."

THIS leaves only one answer. If you seek only to reduce the top speed, restriction plates will do the job. If you seek to deliver loads as quickly as possible with a reduced top speed, you need governors.

The results of tests made with a restriction plate and a governor are shown in an accompanying table. The tests show the superiority of the governor.

On Code Matters...

A Vote for Mr. Eastman

By Anonymous
Assistant Traffic Manager,
Trenton, N. J.

Favoring Mr. Eastman as trucking code administrator, anonymous takes exception to what he considers discriminatory practices in the code. He would scratch the cost formula and restrict the establishment of trade associations with an eye to giving the little fellow a square deal.

THE writer has read with profound interest your article, "Should the Trucking Industry Favor Mr. Eastman as Its Code Administrator?" in your July issue. The article is one that must and will be given serious consideration, and you are to be complimented on your approach to this most vital matter, since it would be a logically correct step. It is very seldom that any personality in the field accepts such broad views.

There can be no doubt in anyone's mind, regardless of his prior feelings toward Mr. Eastman, that the gentleman is better equipped, has a keener insight, and knows not only the necessities in so far as the trucking industry is concerned, but also the consumers. The letter angle is an all-important one. However, to the best of my knowledge, only secondary consideration has been given to it. Of course, this has been discriminatory, and a continuation of the practice would be ruinous, in particular to the trucking industry.

THE writer's company is one of the consuming public, whose distribution necessities require the use of trucking facilities to a large extent, and the company has been modern by permitting the writer



to attend various proceedings on both the drafting of the proposed trucking code, and that code which was finally given the industry by the NRA. I must say that my contact with all the code members and National Code Authority has been most cordial, and I know that their efforts are sincere. Therefore, please do not accept this as a disparaging document, since it is meant to be constructive criticism, from a side of the fence that has not been given a just amount of absolutely necessary consideration. It seems that the trucking operators feel they are the only ones who have had a hard task to perform.

THE Trucking Code in its proposed draft provided for the establishment of rates and tariffs either on basis of rail rates, or a stipulated percentage of same. However, through pressure of disinterested parties and those whose intent was for possible continuation of chiseling of rates, this all-important and necessary provision was eliminated, and replaced with the far-fetched cost formula.

FOR analytical reasons, just what's the purpose of a cost formula, at least the purpose it is to serve in the Trucking Code? First, a trucker is to establish a minimum rate, below which he cannot quote without violation, and said minimum rate is to be predicated on the formula cost development which makes it possible to have a variation of rates between any two given points, the degree of which variation is unknown since no two concerns' operations are identical from many angles, such as equipment, overhead, maintenance, etc. In other words, this method leaves open the most essential point for stabilization of the trucking industry, which has been the primary factor in placing this industry in the chaotic condition which has been so prevalent in the past, and the outlook of the future none too savory.

THE consumer's side of this story is a necessity of competitive equality between manufacturers of the same commodity, whose every business is done from a same price level of commodities. Therefore, competitive conditions are only created by quality and if this is the same, the final factor is the transportation element. In so far as the rail rate angle of this competition is concerned, it is easily accessible

CHOICE LETTERS



ON SUBJECTS OF

Topics Discussed This Month

1. A Vote for Mr. Eastman—By Anonymous, Assistant Traffic Manager, Trenton, N. J.
2. Self Maintenance Economical—By W. W. Frazer, Manager, Larrabee Deyo Corp., Binghamton, N. Y.
3. Major Repairs to Dealers—By O. Wiederhold, Fleet Consultant, Philadelphia.

and, generally speaking, produces as near equal competition as it is physically possible to have. Contrasting this under the present trucking set-up, we are promised no relief as to the past chaotic unstabilization of rates and services. This fact creates conditions that make for use of this mode of transportation in the future rather dubious, since in order to establish equalization, we must, of necessity, use rail rates and if the rates are used for a purpose, why not use the service rendered by the fair-minded mode of transportation which considers both phases, the consumers and itself? This fact should be alarming to the trucking industry since many manufacturing associations are seriously considering a ban on the use of trucks, and already some have banned trucks as a transportation medium.

GOING into the code further, we find the permissibility of establishment of trade associations for a natural division of the industry. This means that in productive territories, where large metropolitan centers are so located as to warrant

FROM READERS



VITAL INTEREST

4. **Fleet Shop Discount too Small**—By Billie Burgan, Fleet Superintendent, Hage's Ice Cream Co., San Diego, Cal.
5. **A Bouquet for C. C. J.**—By H. C. Boswell, Auto Repair Service, Brooklyn, N. Y.

We will be glad to receive further comments from our readers who wish to write to us on subjects in which they are interested.

large truck movements, we are witnessing the establishment of such groups and, of course, through this monopoly, the creation of rates for a short mileage comparable to the very high rail rates. In other words, these associations are attempting to bring the trucking industry from the gutters to its highest pinnacle over night, without any consideration of the consumer and his competitive concerns, which were principally based on what the truckers themselves have offered in the past seven years.

THE writer could go on indefinitely as to grievances, but has attempted to strike a few highlights. Primarily this is to convey the thought to you of the inability of the truckers to visualize both sides' necessity and it has been a thankless task to attempt to educate them, and for this reason the writer feels that the placing of the Trucking Code immediately under the jurisdiction of Mr. Eastman will help to eliminate some of the unsavory feeling we traffic men have against the industry in general.

... and Self Service

WITHOUT doubt, Mr. Eastman's experience is necessary, as past developments have shown us. Regardless of what his tactics and ethics are, they will be more helpful to the trucking industry in more ways than one. If only one, it would restore our much-needed confidence which, I believe, is the essential thing for placing this industry in a gentleman's grade where it belongs, but will never be attained under its present code provisions. Believe me when I say there are many bright and sincere personalities connected with the National and State Code Authorities whose

every intention is for the betterment of this industry, but some element of the business will counteract their good work unless actual Federal Authority is placed in command, of the trucking rates, in particular.

FINALLY, let me state that whatever Federal regulation is decreed upon as the one for the trucking industry, same should not be so drastic or surrounded with so much red tape as that inflicted upon the railroads. By the same token, some of that to which the railroads are now subjected should be eliminated or modified. It is the writer's thought that both the railroads and the trucks should be regulated in an equitable way. In other words, a certain amount of Government control must be continued for the railroads and extended to trucks to the end that there shall not be abuses and that the best interests of all shippers shall be protected.

Yours for a better trucking industry.

Self-Maintenance Economical

By W. W. Frazer
Manager, Larrabee Deyo Corp.
Binghamton, N. Y.

An economical fleet shop is possible with 10 trucks or more, says W. W. Frazer. Also, the fleet owner has an incentive for keeping costs down because he has the interests of his own fleet to think of and not those of a dozen others.

FROM my experience, which covers about 10 years in the truck field, I would say that to maintain a service sta-

tion economically the fleet should have no less than 10 trucks of the same make and model and naturally the larger the standardization of units, the lower cost per mile per unit.

There is no question of the mechanical ability of the service force, because just as good mechanics can be hired by a fleet owner as by a factory service station and if the fleet is standardized, extra units can always be available for replacement purposes.

IT is true that some work will have to be let out, but what service station, whether factory or fleet, can perform 100 per cent service within its own doors? It is true that a factory service station can maintain a large stock room, but that is necessary to service the wide variety of models that the company has put on the road.

In any cities large enough so that there are fleets of 10 trucks standardized, there will be unit parts companies where parts can be purchased as needed, and who is there to say that these parts are not just as good as the originals in the majority of instances, especially when they are made at the same factories.

LARGE fleet owners can purchase parts from manufacturers just as cheap as jobbers and in a good many cases this would result in enormous savings during the course of a year. However, a fleet owner service manager, who is on his toes, should realize that 25 cents additional cost of a gear or part which would be used about once a year is a whole lot cheaper than carrying that part in stock and maybe never using it. With periodical check-up and overhauling of units, parts can be ordered as they are required, thus reducing the overhead cost of stock on hand.

The fleet owner service manager has the additional incentive of keeping costs down



where the factory service manager has the responsibility of showing a profit on every job that is turned out. The factory service manager has the task of showing a personal interest in the work performed for a hundred or so different customers while the fleet owner service manager is responsible for his own fleet.

REPAIRS and overhauls are generally taken care of with more regularity when handled by a self-maintained service station than when it is found necessary to send a truck to a factory service station. And keeping trucks and equipment in A-1 condition means keeping them rolling and more profits with lower maintenance cost.

Major Repairs to Dealers

By O. Wiederhold
Fleet Consultant*
Philadelphia

Every truck fleet of over 15 vehicles should establish some kind of service department in the opinion of Mr. Wiederhold, who calls attention to the many trucks that rattle over our highways in need of service as proof of his contention.

HAVING been connected with both fleet-operated and truck-dealer maintenance departments, it has been my observation that a debate on the efficiency of one versus the other should resolve itself into the question of what proportion of truck maintenance should go to each.

It is my contention that every truck fleet of over 15 vehicles should establish some sort of maintenance department at least for minor repairs such as motor tune-up, tightening-up, lubrication, etc., and some sort of cost system.

FOR proof of this statement one has only to observe the trucks of many of our small operators that rattle along the highways: fenders falling off, radiators boiling, wheels out of line, etc., all items which eventually increase maintenance costs far more than periodic inspections and corrections.

Major repairs to small fleets can generally be best handled by dealers' service stations which are supplied with special repair equipment, large parts, stock and are, or should be, promptly supplied with important technical data as pertains to changes and betterments in old models.

IT has been my experience that fleet operators with 200 or more vehicles, and quite often those with less, who operate within a radius of 250 miles and who purchase their entire minor and major maintenance in outside service shops are losing money, either through excessive maintenance costs or through excessive capital investments in idle spare equipment.

A dealer shop force serves many fleet owners, the self-service shop but one,



Trucks that are tied up in a dealers' repair shop are certainly not making any return on their investment. The dealer shop must be on the safe side as regards come-back jobs and many an expensive parts replacement has been made for this reason. Such parts replacements are very often saved by an operators' shop because of better familiarity with operating conditions or salvaging with the aid of a welding torch for stock.

TAKE the problem of an operator dispatching 50 or 100 trucks from a central warehouse. Most of these trucks come rolling home in the late afternoon. First it's a leaking gas line, then it's no brakes, or no power, or a hundred and one things that require immediate attention if the trucks are to be ready for the next day or possibly a long night run. Picture such an operator depending entirely on outside service.

With his own maintenance force and parts department, repairs are made at once. Major repairs are made either by night forces or a unit replacement system. Such units coming either from stock or, if necessary, by robbing trucks tied up in the shop for parts, etc.

The whole problem as I have found it requires a careful analysis of operating conditions in each particular fleet.

IN many large cities major repairs can very often be made more economically by dealer shops even for large fleets. But in isolated operations, away from large cities, where it is not uncommon to tie a truck in some small shop waiting for a cylinder head gasket, some sort of unit replacement system with fleet operator inspector mechanics is certainly the most economical in the long run.

*Formerly automotive engineer, truck maintenance department of large eastern oil company.

Are Fleet Discounts Fair?

By Billie Burgan
Fleet Superintendent
Hage's Ice Cream Co.
San Diego, Cal.

Fleet discounts on the basis of quantity purchases is good but does not go

far enough in Mr. Burgan's opinion. Fleet operators maintaining their own service facilities deserve greater discount privileges than the operators depending on outside service.

THE decision of the Code Authority for the Motor Vehicle Retailing Code to base fleet discounts on quantity purchase (\$15,000 annual) is good but does not go far enough. The person or persons entitled to it should have undeniable identification.

Identification seems to hover around the shop and those who are following an automotive life.

There are fleets, large and small, which maintain no service facilities but which are reaping quantity price reductions. This should not be because their needs are identical with those of a strictly retail buyer. Fleets in this class as a rule employ no one following an automotive life for a livelihood and therefore contribute nothing for progress of our trade.

A CLAIM of discount per unit to this class would not be unreasonable when vehicles were bought but to go farther would be to divert percentage benefit into a channel where it does not belong.

For example, a fleet buyer representing a no-service company deals for a thousand tires, and a thousand different men have to wait on him again for every tire when his vehicles stop for service. In the self-service way one buyer makes the deal and the rest of the handling is done in the company's shop at its own expense. The same is true of oil, gas, parts and almost every item in the service field, with the no-service fleet running away with profits that really don't belong to them.

There is much every way to favor liberal percentage going to the self-served fleet. I say frame the house to house the family.

A Bouquet for C.C.J.

By H. C. Boswell
Auto Repair Service
Brooklyn, N. Y.

We read with renewed interest that part of Mr. Boswell's letter, in which he says we have healthy, well-balanced minds (some intellect, eh, boss?), but to call our writing a "masterpiece" is a rare compliment.

PLEASE accept my humble thanks for "Is the New Deal Being Messed Up" (April issue, page 9), as it renews my patriotism and pride in my countrymen to know we still have healthy, well-balanced minds with courage to write such a masterpiece.

Faith in the New Deal may perish, but faith in America will get stronger regardless of deals.

It is very nice to have a calm voice say: "Everything's all right; you were just having a nightmare."

REPEAT PURCHASES



PROVE SATISFACTION

When a man, buying successive motor cars or trucks, continues to be powerfully influenced by one certain specification, as is true of hundreds of thousands of Hydraulic Brake enthusiasts, then that specification becomes enormously important.

An impressively large proportion of car and truck buyers undeniably buy certain vehicles because they have Lockheed Hydraulic Brakes.

These buyers like these brakes—prefer them to others.

For this reason, and for several other very important reasons, many manufacturers have found it definitely worth while to provide Lockheed Hydraulic Brakes. Simplicity of factory assembly, ease and permanence of adjustment, very low service overhead, are among the added Lockheed advantages.

HYDRAULIC BRAKE COMPANY
DETROIT, MICHIGAN

LOCKHEED HYDRAULIC

Four **BRAKES** *Wheel*

OFFICIALLY SERVICED THROUGHOUT THE NATION BY WAGNER ELECTRIC CORPORATION

AUGUST, 1934

..... New Products on Parade

(CONTINUED FROM PAGE 31)



New Dodge 1 1/2-Ton series priced at \$490

Dodge Adds 1 1/2-Ton at \$490

A NEW lower-priced series of Dodge trucks of 1 1/2-ton capacity are being offered at the factory list price of \$490 for the 131-in. wheelbase 1 1/2-ton chassis.

Additional Dodge truck models, called the KH-30 1 1/2-ton series, are available on four different wheelbases—131, 136, 148 and 161 in. The chassis base price of \$490 applies to the 131 and 136-in. wheelbases; the 148 and 161-in. wheelbase chassis lists each at \$520 f. o. b. factory.

Standard body types are express, canopy, screen and panel on the 131-in. chassis, platform and stake on the 136 and 161-in. chassis. The 148-in. chassis is furnished as chassis or as chassis and cab.

The frames of the KH series are of the straight-sill type, 6 29/32 and 7 in. deep, 25/16 and 2 23/64 in. wide in flange, and 11/64 and 7/32 in. thick.

The engine, with a bore and stroke of 3 1/8 x 4 3/8 in. develops 72 hp. The piston displacement, 201.3 cubic in., gives the economical NACC or license rating of 23.44. The motor compression ratio is 5.8 to 1, and the torque 138 pound feet at 1200 r.p.m. The four-bearing crankshaft is provided with seven counterweights. Lubrication of the power plant is by full pressure; oil filter and air cleaner with shroud are standard equipment. The clutch is of the single-plate type, with shock-absorbing spring center and ball release bearings.

The rear axle is of the full-floating type. Axle shafts are 1 3/8 in. thick at

the center and 1.516 in. at the spline end.

Hydraulic brakes are also featured on the trucks of the additional KH-30 series. These brakes are of the fully enclosed, internal-expanding type, with cast-iron drums 12 in. diameter in front and 14 in. diameter in the rear.

New GM Model T-46

General Motors Truck Co. announces another addition to its truck line, the T-46 of 5 tons capacity, to round out its medium duty line. It has a base price of \$2,135.

The T-46 is powered with GMC's "331" engine, which develops 94 h.p. at 2500 r.p.m. (governed speed), and 230 lb.-ft. torque at 800 to 1400 r.p.m. Engine features include pump and fan drive by dual belt, Stellite seats, down-draft carburetion, counter-weighted crankshaft, harmonic balancer, 3-point, rubber-insulated engine mounting and an AC Triplex air cleaner. The clutch is of the double-disk, multiple-spring type, and the transmission is of the four-speed, heavy-duty truck type.

Dixon Graph-Air Gun

Through a lubricating device marketed under the name of Graph-Air Gun, micro-fine flake graphite, a lubricating powder may now be utilized for all-purpose lubricating service.

The Graph-Air gun, manufactured by Joseph Dixon Crucible Co., Jersey City, being made of rubber, when squeezed deposits the graphite in measured amounts

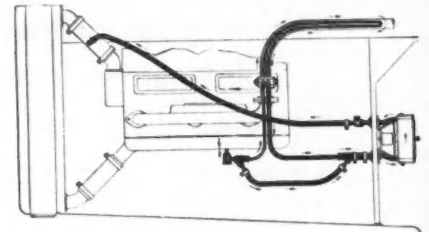
through controlled air pressure. The measured or graphite volume is largely controlled by the position of nozzle in relation to the dial on top of gun. The nozzle may be turned to a complete shut-off position making the gun practical to carry in tool kits without spilling graphite.

A plug fitted to the bottom of the gun and easily snapped in and out, carries a disc of chamois for use as a burnisher. The gun head may be quickly unscrewed, exposing a large opening through which is inserted the "easy-pour chute spout" which is attached to the refill cans of micro-fine graphite.

Steam Heat for Trucks

A new steam heating system for cars and trucks is being marketed by the McAleer Mfg. Co., Detroit. The McAleer steam system draws its water supply directly from the motor block, and works on low pressures.

Alcohol is the only anti-freeze that can be used with the McAleer steam system. Liquid from the engine is taken through a copper supply tube to a boiler tube of treated steel, held in place in the exhaust pipe. Here it is converted into steam, which travels through an insulated copper steam tube to the top tank of the heater. After the steam has delivered its heat and condensed, the condensate is returned to



the cooling system through the lower radiator hose.

Down-draft louvers are built onto the face of the heater core, which distribute the heat toward the floor, from which it naturally rises. Deflectors on the heater itself are adjustable to five positions.

Warner Electric Brake

Warner Electric Brake Corp., Beloit, Wis., announces a new "Mountain Type" electric brake. Heretofore the Warner brake has been used mostly on trailers but this new brake is said to be equally applicable to trucks.

The brake consists of seven parts exclusive of the brake drum, as follows: the brake backing plate on which the magnet is mounted, the brake band, the magnet, the armature which revolves with the brake drum and is held lightly against the magnet by steel springs, and the three springs which return the brake to the "off" position when the electric current is shut off.

Each brake of the new type has a lining area of 62 sq. in., as compared with 39 sq. in. in the previous design.

COMMERCIAL CAR JOURNAL

See Page 40

NEWS

Section 1

Retail Code Exempts "Over 3/4-Ton" Class

Value on Truck of 3/4-Ton or Less
Set by Ass'n Official Guide

The Motor Vehicle Retailing Trade Code does not apply to trucks and commercial vehicles in excess of "3/4-ton capacity or less" in respect to allowances, list prices, delivered prices or the discount from such prices, it has been definitely stated by Assistant Deputy Administrator J. F. Delaney in a note to the National Control Committee for the MVRT code.

"However," the note continues, "if in the purchase of a motor vehicle the consumer offers and the dealer accepts a used truck or commercial vehicle with a body of 3/4-ton capacity or less, in lieu of cash in payment in whole or in part of the purchase price of another motor vehicle then the provisions of Article IV, Title A, Sections 1 and 2 apply."

For the purposes of further clarification, it was stated that if a truck of 3/4-ton capacity or less is used as part of the purchase price of a motor vehicle as defined in Article 2 of the code, the maximum permissible allowance is determined by use of the figures and schedules as published in the Association Official Guide, current as of the date, title and possession of the truck of 3/4-ton capacity or less passes to the dealer.

The NCC reports that NRA officials have granted a stay of the MVRT code as it applies to purchases by Federal, State and municipalities, sometime this month. This means that manufacturers and dealers can bid at a discount with no restrictions whatever.

Trucks Pay Federal Bill of \$303,467,000; 27% of All Tax

Revenue derived by Federal, State and local governments from motor truck taxation climbed to a new peak last year when the more than three million trucks registered were assessed \$303,467,000 in registration fees, gasoline and excise taxes, according to figures released by the National Automobile Chamber of Commerce. Though trucks were but 13 1/2 per cent of the motor vehicles registered, they paid nearly 27 per cent of the special motor vehicle tax bill.

Statistics obtained from government sources show that taxes on trucks above five tons capacity are nearly four times those levied on 1 1/2 tons or less. The average special tax on a private truck is \$60.15; on a contract carrier, \$108.35, and common carrier, \$183.49.

Waterland With FWD

A. F. Waterland, recently from England, will be in charge of the Philadelphia Headquarters of the Four Wheel Drive Auto Co.

Safe-Driving Campaign



Transportation officials and traffic experts participate in a safe truck driving conference with Detroit drivers. The safety campaign program includes mechanical and appearance inspection of trucks, lectures by traffic officials, insurance men and company officials, demonstrations of differences between safe and indifferent driving and the granting of merit certificates to drivers who have no traffic mishaps. Conference shown just after an inspection are left to right: J. H. Reynolds, Fidelity and Casualty Insurance Co.; Guy F. Hanke, general manager, Universal Car Loading & Distributing Co.; Robert F. Welsh, manager, Detroit Trucking Co.; Sergeant J. W. Brown, traffic lecturer, Detroit Police.

Kansas Checks Trucks; Collects \$112,406 by Port of Entry Law

The port of entry law in operation in Kansas since January of this year has resulted in the checking of 117,613 trucks, of which nearly 70,000 were from out-of-State, crossing State borders for the first three months. Fees collected total \$112,406. Sixty-five inspection stations where trucks are stopped and inspected have been established. Although said to be beneficial to Kansas truckers, considerable speculation is being made on the effect the law may have on interstate trucking if adopted by surrounding States.

R. A. Weinhardt who has been appointed assistant chief engineer of the Reo Motor Car Co., passenger car and truck divisions



Maintenance Trade Code Ready for NRA

Approval Expected This Week;
Need 45 Days to Organize

Shorn of its cost recovery provisions, a code of fair competition for the automotive maintenance trade is being pushed aggressively by NRA Deputy Administrator Jo Roberts who hopes to have it ready for approval shortly.

It is expected that the code initially will contain only the mandatory provisions, wage and hour sections, and simple trade practices. Later it may be reopened to insert some sort of price protection. Although a provision requiring members of the trade to keep their individual prices available for public inspection has been considered, it is regarded as doubtful that it will be incorporated in the approved draft.

While the trade is getting organized to administer its code, it is planned to appoint a temporary administrative committee under the supervision of NRA pending the election of a permanent code authority. It is anticipated that the necessary organization work will take about 45 days.

Truck Code Authority Seeks to Solve Insurance Problem

The national code authority for the trucking industry, has begun a series of studies under the direction of Dr. J. C. Nelson, seeking a solution of insurance problems confronting truck operators.

Insurance costs are mounting. One estimate places costs at from \$125 per year for a 1/2-ton truck up to \$1,200 per year for the largest vehicles. Two causes were believed responsible for this condition. One is the constantly increasing restrictive State regulatory measures and the other is that insurance companies consider truck operators bad risks.

The following committee has been appointed to work with Doctor Nelson: R. W. Barnwell, North Carolina; Maurice Tucker, Indiana; H. D. Berkowitz, Pennsylvania; Robert A. Anderson, Missouri, and Robert Stockton, Illinois.

Bill Proposes Gross Weight

A bill has been introduced in the New York Senate which would amend the present law regulating gross weight of vehicles by reducing the wheel weight of trucks (when equipped with pneumatic tires).

Gorey With Wheels

Joseph C. Gorey, formerly president of Gorey Automotive Parts, is now associated with Wheels, Inc., as special representative. Mr. Gorey will specialize in the sale of replacement parts and assemblies to fleet operators.

American Trucking Ass'n Asks U. S. Aid Against Hijackers

No less than 12 cases of hijacking, some of which involve not only loss of cargo but also damage to equipment, have occurred in Eastern territory within the last two months. When this fact was called to the attention of the Department of Justice by the American Trucking Association, they were assured of a thorough investigation and speedy action in all such cases, provided the operators would cooperate in providing all necessary information.

Operators who are known to have suffered because of hijackers, are asked to send in all facts to the ATA so that they can be turned over to the Department of Justice. In order to assure cooperation with the Government, operators must give a detailed description of their business, commodities transported, origin and destination of load hijacked, any well founded suspicions as to the perpetrators and other information which may be helpful in apprehending the criminals. The way it is handled now, it is not known by the criminals who gives the information against them.

Rail Trucks Opposed in NYC

Members of New York City's code authority are opposed to railroads providing store-door delivery and pick-up service to shippers unless they conform to the code provisions.

A petition bearing the names of 800 fleet operators and individual owners is being prepared for submission to NRA officials in Washington, with the request that either the railroads be prohibited from continuing this practice or that they bring their trucks so used under the trucking code.

In the meantime, a decision is being awaited from Federal Courts on the application for an injunction restraining the railroad owned trucks from operating in store-door delivery service.

Reo Dealership to Hickey

Reo Hickey, Inc., has taken on the dealership of Reo trucks and passenger cars in the Philadelphia territory. A. E. Hickey was formerly vice-president in charge of Eastern division for Fruehauf trailers.

Fisher Resigns from Sterrett

Fred J. Fisher has resigned as vice-president in charge of the Baltimore branch of Sterrett Operating Service, Inc., the truck leasing subsidiary of General Motors Truck Co.

Moving Trade Forms Approved

Approval by the NRA of forms proposed by the Code Authority for the household goods storage and moving trade, on which would be registered members of the trade, vehicles operated, gross warehouse space used and other required information, has been given.

Truck Code Applies Intra-state

Members of the trucking industry who are trying to evade coming within the jurisdiction of the trucking code are contending that the Act does not apply to intra-state business. The courts hold that no such interpretation can be read into the Act. The trucking code applies to all types of for-hire operators in all states whether or not the NRA is supported by a state recovery act. The Administration's reply to this question is: "The trucking code applies to all types of for-hire operators."

Michigan to Reorganize Truck Commission Apart from Rails

Supervision of bus and truck, as well as railroad rates in Michigan will shortly be placed under a reorganized Michigan Public Utilities Commission, according to the commission's chairman, J. B. Balch. Reorganization of the commission is already under way, it is reported. It is planned to separate control over bus and truck enforcement and inspection from that for railroads, combining only the rate division under a single bureau.

221,000 Trucks Registered

Vehicles registered under the trucking code, as reported officially to the National Code Authority, totaled 215,027 up to August 10. Later reports received by mail and telegraph from about half of the states boosted this total by an additional 6,500, bringing the estimated total registration to more than 221,000 as of August 13.

July New Truck Registrations Up

July registration reports from 12 states on trucks are summarized by R. L. Polk and Company as showing increases of four per cent over June totals for the same states. This increase however is probably a reflection of the high June peak and the carrying over into July registrations of a considerable number of vehicles actually delivered in June. Factory sales reports indicate higher sales for June than shown by registrations and lower deliveries for July than June.

Dodge Sales Increase

Dodge dealers report retail deliveries of 152,742 new passenger cars and trucks for the year up to August 4, compared with a total of 96,330 for the same period last year, an increase of 58.6 per cent.

A detailed tabulation of the year-to-date sales shows that 27,381 Dodge commercial cars and trucks were delivered this year against 9,343 in 1933.

National Carbon Ups Spangler

John M. Spangler has been appointed general sales manager of National Carbon Co., Inc. He has been with the company since 1915.

Industry's Code Authority Urges Truck Cost Formula Approval

Insisting that the cost formula for the trucking industry is a necessary instrument in bringing about a stabilization of rates within the trucking industry, steps were taken recently by a committee representing the National Code Authority for the industry to have NRA approve the pending proposed cost formula.

The committee pointed out to NRA officials that the entire purpose of the formula would be defeated by allowing unfair differentials between competitors: submitting estimates in lieu of scientific measurements of insurance and in lieu of facts on depreciation; rendering rates subject to rapid, uncertain and disastrous changes by reason of variable experiences from losses; tending to create monopoly by allowing unfair advantages to financially strong operators who would charge off depreciation at a rapid rate, and giving power to drive out competition to those operators who had by past bookkeeping methods depreciated their equipment entirely, or who had been able to secure trucks or other equipment at little or no cost.

NRA Receives Proposal Modifying Truck Budget Provision

A proposal for modification of the trucking industry code which would amend the code by rewriting, for purposes of clarification and conformity, the provisions authorizing the Code Authority to establish a budget and basis of contribution from members for code administration expenses, has been submitted for NRA approval by the code authority for the trucking industry.

Notice has been given that criticisms or suggestions regarding this must be submitted to Deputy Administrator E. E. Hughes, Department of Commerce Building, Washington, D. C.

Service Trade Code in Order

The suspension of the fair trade practice provisions of the service trades code proclaimed by executive order last month has been lifted, NRA officials announce. Within the next two weeks application forms for the code's blue eagle will be in the mails to nine so-called service trades throughout the country.

Highway Users Organize

The Massachusetts Highway Users Conference held their organization meeting in Boston early this month. About 75 groups, substantially the same as those ordinarily participating in a state highway users conference, attended. Among them were organizations of shippers, wholesaling and retailing commercial groups, automotive groups and highway officials.

Protest was raised against the state's huge diversion of highway funds to other channels. A permanent organization is being planned.

(TURN TO PAGE 53, PLEASE)

COMMERCIAL CAR JOURNAL'S

TRUCK SPECIFICATIONS TABLE

The Commercial Car Journal's Truck Specifications Table is brought up to date in each issue from data supplied monthly by truck manufacturers

KEY TO ABBREVIATIONS AND REFERENCE MARKS

GENERAL

Chassis Price—Chassis price quoted applies to the standard wheelbase and specifications listed. All prices are F.O.B. factory.

***—List price not yet established. Ready next issue.

Tonnage Rating—Where a spread of ratings is given the maximum ratings are for ideal operating conditions and the minimum for extremely difficult conditions; the ranges between are for varying operating conditions.

Gross Vehicle Weight—Is chassis weight, plus body and cab, plus payload. Gross vehicle weight given for a model is based on maximum recommended tire size and not on tires listed as standard equipment.

Chassis Weight Stripped—Includes gas, oil and water and all things included in chassis price. Does not include the weight of cab.

Maximum Brake H. P. at Given R.P.M.—Is actual dynamometer reading without accessories.

Tractors—Unless given the designation N (meaning not available as tractor), all standard models may be assumed to be available as tractor.

(A) All Torque and Brake Horsepower values listed are based on engine outputs with all Standard Equipment Accessories running and are the same values obtaining with the truck on the road in actual operation.

(N) Not available as tractor.

(T) This designation accompanying a model number indicates vehicle is specifically designed for tractor use only.

c. o. e.—Cab-over-engine design.

(3) Corbitt—Larger engines and corresponding auxiliary units provided on all models at extra cost.

(4) Day Eider—Model 75-1 1/4 ton—same specifications except price—\$945, and larger tire size—B6.00/20 front and DB6.00/20 rear.

(5) Dodge—F-61 available as special tractor truck with 146-inch wheelbase with model designation of F-60, at \$2645. K-61 available as special tractor truck with 146-inch wheelbase with model designation of K-60, at ***.

(6a) Dodge—Model H20, 3/4-1 ton, gross vehicle weight 6,000 lb., price \$502, has same specifications as H30 except tires which are 7.50/17 and lighter rear springs.

(6) General Motors—Models T-18 to T-61 inclusive are also available for export only as coach chassis. Double reduction axles optional at extra cost in Models T-43, T-43T, T-51, T-73H and T-74. Worm type axles optional at price deduction in Models T-61, T-75T, T-75, T-75H and T-83. Chassis prices and weights on all cab-over-engine models include the cab. A complete line of super-heavy duty models designated T-85 series (4-wheel) and T-95 series (6-wheel) custom-built to exactly meet customer's requirements are available with a range of axles, wheelbases, engines, transmissions, etc., and prices will be quoted upon application.

Gramm—Larger engines and corresponding auxiliary units provided on all models at extra cost when type of service demands. Wheelbases and body mounting dimensions may change to suit special requirements. Double reduction axles available on all models except AX and BX.

Gross weight indicated for each model in the table is the straight rating.

Series CXH is supplied with Hercules JXB engine in Model CXHB and Hercules JXC in Model CXHC.

(7) Grane Premier—Eight cylinder engines available on following models: 835 with Lye. GU at \$1515 list; 865 with Lye. HF at \$4230; 875 with Lye. AE at \$5400.

(8) International Harvester—A-1, 1/4 ton, same as A-2 except less spring leaves and smaller tires.

(9) Le Moon—Model 600 available with Lye. AEC at same cost. Models 701 and 801 available with Waukesha 6SRL at same cost.

(10) Sterling—Rocker arm used in place of springs.

(9) Sterling—These models also available equipped with Cummins Model H Diesel engine.

†Reo—Model 1D is the longer wheelbase edition of Model 1B. The frame dimension is 7x2 3/4 x 4. It is furnished at extra cost.

†Reo—2J, 2K same as 2H except 166 in wheelbase and price of \$1695

††Reo—3J same as 3H except wheelbase of 170 in. and price of \$2085; 3K same as 3H except 185 in. wheelbase and price of \$2155. 3M same as 3H except 205 in. wheelbase.

(11) Studebaker—8-2 in 141 in. and 165 in. wheelbases has 6 1/2 in. frame depth.

(12) White—Each model shown is furnished with different specifications for different tonnage ratings.

*—Factory governed speed 2400 r.p.m.

(12a) White—Special prices for each installation.

(13) Marmon-Herrington—Available with Hercules Diesel engine. Price on application.

(14) Ford—Rear axle ratios 5.14 and 6.6 optional on 1 1/2-ton trucks.

(15) Mack—Chassis price and weight include cab.

(16) Biederman—Will furnish Continental, Hercules, Waukesha and Lycoming engines at the buyer's option.

(17) Moreland—All Moreland models available with Waukesha engines and as six-wheelers with dead axle.

(18) Walker—Frame lengths may be changed, within limits, to suit individual requirements, at no additional cost.

MAKES—ALL

AB—American Bosch.

A LF—American La France.

AL—Auto Lite.

B—Bendix.

BB—Borg & Beck.

BL—Brown-Lipe.

BO—Bendix front, Own rear.

Blo—Blood.

Bu or Bud—Buda.

BW—Borg Warner.

C or Col—Columbia.

Car—Carter.

Ch—Chicago.

Cl—Ignition by compression.

Cl or Cla—Clark.

Cle—Cleveland.

Co—Covert (transmission).

Co—Covert (clutch).

Con—Continental.

Cot—Cotta Gear.

Cum—Cummins Diesel.

Det—Detroit Lubricator.

DQ—Detroit Gear and Machine.

DR—Delco Remy.

Eat—Eaton.

Ei—Eisemann.

En—Governor built in engine.

EV—Electro-Vac (gov.) Pierce.

Fe—Feddars.

Fu—Fuller.

Ge—Gemmer.

GO—G. & O.

Ha—Handy (governor).

Ha—Hannum (steering gear).

Has—American Car & Fdry.

Her—Hercules.

Hr—Harrison.

HS—Merchant & Evans (clutch).

HS—American Car & Fdry. (governor).

Jac—Saginaw.

Jo—Jones.

KP—Handy.

L—Lockheed.

Li—Lipe, W. C.

LN—Leece Neville.

Lo—Long.

LO—Lockheed front, Own rear.

LW—Lockheed front, Wisconsin rear.

Lyc—Lycoming.

Mc—McCord.

Ma—Marvel.

ME—Merchant & Evans.

MM—Mechanics Mach.

Mo—Modine (radiator).

Mo—Monarch (governor).

My—Mallory.

NE—North East.

No—Not supplied.

ns—No Standard.

O or Ow—Own.

Op or Opt—Optional.

Pe—Pierce (governor).

Pe—Pierce (radiator).

PS—Peters & Sneed.

RB—Robt. Bosch.

Ro—Rockford.

Ros—Ross.

Sc—Scintilla.

Sch—Wheeler-Schebler.

Sh—Shuler.

SpB—Spicer and Blood.

SpI—Spicer.

Stc or St—Sterling.

Sto—Bat—Storage Battery

Str—Stromberg.

Til—Tillotson.

T or Tim—Timken.

TWH—Timken Wisconsin Herrington

WG—Warner Gear.

Wa—Waukesha (governor).

Wau—Waukesha.

W or Wis—Wisconsin.

Wc—Westinghouse.

Yo—Young.

Zen—Zenith.

BRAKES—SERVICE

Location

2—Two Wheels, rear only.

2/4—Two-wheel brakes effective on all four wheels through driveshaft.

4/6—Brakes on four rear wheels effective on all wheels through driveshaft.

T/4—Brake on transmission effective on all four wheels through driveshaft.

4—Four Wheels, front and rear.

4r—Four Wheels, rear only.

6—Six Wheels, front and rear.

J—Jackshaft.

P—Propeller shaft.

Type

I—Internal.

X—External.

Operation

A—Air.

LA—Hydraulic and mechanical.

H—Hydraulic.

M—Mechanical.

V—Vacuum.

BRAKES—HAND

Location

C—Center of double propeller shaft

2—Rear wheels.

4—Four wheels.

R—Worm or bevel gearshaft

T—Transmission.

F—Driveshaft.

Type

D—Tru-Stop disk.

I—Internal.

X—External.

BRAKE DRUMS

Material

s—Cast alloy iron.

A—American Car Fdry.

C—Centrifuge

D—Dayton.

E—Ermalite.

G—Gunite.

H—Hunt Spiller.

c—Cast iron.

s—Pressed steel.

s—Pressed steel.

s—Cast steel.

(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

CLUTCH

Type

D—Multiple disk.

dp—Double plate.

O—Plate in oil.

P—Single plate

ENGINE

Valve Arrangement

F—Inlet valve in head; exhaust valve at side.

H—In head.

L—"L" head, valves at side.

T—Inlet and exhaust on opposite sides.

Camshaft Drive

C—Chain.

G—Gear.

Piston Material

A—Aluminum alloy.

B—Semi-steel.

C—Cast iron.

N—Nickel iron.

S—Aluminum alloy with strut.

Main Bearings

r—Rear main bearing.

Oiling System

CC—Pressure to main, connecting rod and camshaft bearings.

FP—Pressure to main, connecting rod camshaft bearings and piston pins.

PC—Pressure to mains and connecting rod bearings.

PG—Pump, gravity and splash.

PS—Pressure with splash.

FRAME

Type

I—"I" Beam.

C—Channel.

T—Channel tapered front and rear

L—Channel reinforced with liner.

B—Channel reinforced with both liner and fishplate.

P—Channel reinforced with plate.

TL—Channel tapered front and rear reinforced with liner.

D—Drop Center

Tf—Tapered front

X—X-Braced

FUEL SYSTEM

Fuel Feed

E—Electric pump.

G—Gravity.

M—Mechanical pump.

P—Pressure.

V—Vacuum.

B—Bosch

C—Cummins

REAR AXLE

Final Drive and Type

B—Bevel.

C—Chain.

D—Dead.

F—Full-floating.

2—Double Reduction.

S—Spiral bevel.

W—Worm.

w/2—Worm or Double Reduction

Optional.

1/2—Semi-floating.

3/4—Three-quarter floating.

Drive and Torque

A—Radius Rods and Torque Arm.

H—Hotchkiss (springs)

R—Radius Rods

T—Torque Arm.

U—Torque Tube.

SPRINGS

Auxiliary Type

1/4—Semi-elliptic above or below main springs.

1/4—Quarter elliptic.

C—Coil spring.

N—No.

O—Optional.

TIRES

B—Balloons.

DB—Dual Balloons.

P—High Pressure Pneumatics.

DP—Dual High Pressure Pneumatics.

S—Solids.

DS—Dual Solids.

*—Pneumatics at extra cost.

TRANSMISSION

Location

A—Amidships.

J—Unit with jackshaft.

U—Unit with engine.

Auxiliary Location

No—Not furnished.

O2—2 speed axle unit optional at extra cost.

Op—Optional at extra cost.

A—Amidships.

R—Rear of amidships main transmission.

U—Unit with engine.

WHEELS DRIVEN

Line Number	MAKE AND MODEL	GENERAL (See Keynote)				TIRE SIZE		MAJOR UNITS				FRAME						
		Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	ENGINE	TRANSMISSION	REAR AXLE						
										Make and Model	No. of Cylinders Bore and Stroke	Make and Model	Location and Forward Speeds	Make and Model	Gear and Type	GEAR RATIOS		
1	A.C.F.	160 6	6950	186	222	26000	10170	B9.75/22	B9.75/22	HaS 160	6-4 1/2x5 1/2	BL 1714	U4 Op	Tim 76730	2F	R 7.46 52.7	8x3x4 1/2	P
2	175B	6 1/2	8300	186	222	26000	10750	B10.50/22	B10.50/22	HaS 175	6-5x8	BL 714	U4 Op	Tim 76730	2F	R 7.46 52.7	8x3x4 1/2	P
3	175A	7 1/2	8900	186	240	30000	11610	B10.50/24	B10.50/24	HaS 175	6-5x8	BL 714	U4 Op	Tim 79730	2F	R 7.48 53.1	8x3x4 1/2	P
4	Armleder	2 1/2-3 1/2	1295	156	195	11500	4850	B6.50/20	DB6.50/20	Con 16C	6-3 1/4x4 1/4	BL 35	U4 No	Tim	BF	R 5.83 31.2	6x3x4 1/2	P
5	21Ha	2 1/2-3 1/2	2185	160	207	15300	5450	B8.25/20	DB8.25/20	Her WXC	6-4x4 1/4	Fu 5-A-38	U5 No	Tim	BF	R 6.06 38.5	6x3x4 1/2	P
6	31Ha	3 1/2-4 1/2	2695	146	213	19500	5750	B9.00/20	DB9.00/20	Her WXC	6-4x4 1/4	Fu 5-A-38	U5 No	Tim	BF	R 6.02 39.2	7x3x4 1/2	P
7	41Ha	4 1/2-5 1/2	3050	146	227	23000	6600	B9.75/20	DB9.75/20	Her WXC	6-4x4 1/4	Fu 5-A-38	U5 No	Tim	BF	R 6.83 43.8	7x3x4 1/2	P
8	61Ha	5 1/2-6 1/2	3725	146	227	24000	7400	B9.75/20	DB9.75/20	Her WXC2	6-4 1/2x4 1/2	Fu 5-A-38	U5 No	Own	2F	R 7.07 49.7	8 1/2x3x4 1/2	P
9	71Ha	6 1/2-7 1/2	5895	152	247	35000	9820	B10.50/24	DB10.50/24	Her RXC	6-4 1/2x4 1/2	Fu 5-A-53	U5 No	Own	2F	R 7.07 49.8	8 1/2x3x4 1/2	P
10	(T) TRD	12	4150	148	174	35000	7100	B9.00/20	DB9.00/20	Her YXC	6-4 1/2x4 1/2	Fu 5-A-53	U5 No	Own	2F	R 7.8 56.8	7x3x4 1/2	P
11	(T) TRD	15	4350	148	174	39000	7226	B9.75/20	DB9.75/20	Her YXC3	6-4 1/2x4 1/2	Fu 5-A-53	U5 No	Own	2F	R 7.8 56.8	7x3x4 1/2	P
12	(T) TRD	15	4595	148	174	45000	7326	B9.75/20	DB9.75/20	Her RXC	6-4 1/2x4 1/2	Fu 5-A-53	U5 No	Wls	2F	R 7.8 56.8	7x3x4 1/2	P
13	Autocar	RG 2 1/2	3000	150	192	26000	6100	P34x7	DP34x7	Own R	6-3 1/2x4 1/4	Own T	U4 No	Own D	2F	H 6.21 39.3	8x3x4 1/2	T
14	D3	3 1/2	3500	150	192	26000	6140	P34x7	DP34x7	Own SD	6-4x4 1/4	Own T	U4 No	Own D	2F	H 6.21 39.3	8x3x4 1/2	T
15	DF	3 1/2	3950	150	192	26000	7010	B9.00/20	DB9.00/20	Own SD	6-4x4 1/4	Own T	U4 No	Own TE	2F	H 6.43 40.7	8x3x4 1/2	T
16	DH	4 1/2	4150	150	174	26000	7400	P36x8	DP36x8	Own SD	6-4x4 1/4	Own T	U4 No	Own TE	2F	H 6.43 40.7	8x3x4 1/2	T
17	DF	4 1/2	4650	191	227	26000	8275	B9.75/20	DB9.75/20	Own SD	6-4 1/2x4 1/2	Own T	U4 No	Own TE	2F	H 6.43 40.7	8x3x4 1/2	T
18	NF	5	4750	151	227	26000	8370	B9.75/22	DB9.75/22	Own SCH	6-4 1/2x4 1/2	Own D	U5 No	Own TF	2F	H 7.20 42.1	9x3x4 1/2	T
19	S	5	5500	168	163	26000	9675	B9.75/22	DB9.75/22	Own SCH	6-4 1/2x4 1/2	Own T	U4 A3	Own CG	2F	H 8.22 54.0	9x3x4 1/2	T
20	C	7 1/2	6650	158	176	26000	11784	B10.50/24	DB10.50/24	Own SCM	6-4 1/2x4 1/2	BL 734	U4 A3	Wls 78720	2F	H 9.92 121.1	10 1/2x3x4 1/2	T
21	NFS	7 1/2	5600	208	208	26000	10000	B10.50/20	DB10.50/20	Own SCH	6-4 1/2x4 1/2	Own T	U4 No	Own TF	2F	H 9.20 116.5	9x3x4 1/2	T
22	T	7 1/2	5900	192	242	26000	9680	B10.50/22	DB10.50/22	Own SCM	6-4 1/2x4 1/2	Own D	U5 No	Own TG	2F	H 7.20 88.5	9x3x4 1/2	T
23	TE	8 1/2	6300	214	228	26000	10020	B9.75/22	DB9.75/22	Own SCM	6-4 1/2x4 1/2	BL 7351	U5 No	Own CG	2F	H 7.20 87.6	10 1/2x3x4 1/2	T
24	(Eng. und. seat)	UDF 3 1/2	3500	97	145	11200	6740	B9.00/20	DB9.00/20	Own SD	6-4x4 1/4	Own T	U4 No	Own H & D	2F	H 6.43 40.7	8x3x4 1/2	T
25	UN	4	4650	96	163	11200	8635	B9.75/20	DB9.75/20	Own SCH	6-4 1/2x4 1/2	Own T	U5 No	Own C & N	2F	H 6.43 40.7	8x3x4 1/2	T
26	UN	5	4850	128	163	11200	9200	B9.75/22	DB9.75/22	Own SCH	6-4 1/2x4 1/2	Own D	U5 No	Own TF	2F	H 7.20 42.1	9x3x4 1/2	T
27	UN	6	5300	109	163	11200	9115	B9.75/22	DB9.75/22	Own SCH	6-4 1/2x4 1/2	Own T	U4 No	Own CG&TG	2F	H 7.20 45.6	9x3x4 1/2	T
28	UN	7 1/2	5900	128	163	11200	9680	B10.50/22	DB10.50/22	Own SCM	6-4 1/2x4 1/2	Own D	U5 No	Own CG&TG	2F	H 7.20 45.6	9x3x4 1/2	T
29	U	TE 8 1/2	6300	145	163	11200	10525	B9.75/22	DB9.75/22	Own SCM	6-4 1/2x4 1/2	Own T	U4 A3	Own CG&TG	2F	H 7.20 45.6	10 1/2x3x4 1/2	T
30	Available	W-170 2 1/2	1620	Op	Op	13400	4000	B6.50/20	DB6.50/20	Wau BK	6-3 1/2x4 1/4	Wau BK	U4 No	Tim 54300	SF	R 6.14 48.5	8x3x4 1/2	TX
31	W-170	2 1/2	1720	Op	Op	13400	4800	B7.50/20	DB7.50/20	Wau BK	6-3 1/2x4 1/4	Wau BK	U4 No	Tim 54300	SF	R 6.8 43.5	10x2 1/2x4 1/2	TX
32	W-210	3	1975	Op	Op	16300	5400	B8.25/20	DB8.25/20	Wau BK	6-3 1/2x4 1/4	Wau BK	U4 No	Tim 54300	SF	R 7.4 47.4	12x2 1/2x4 1/2	TX
33	W-240	3	2750	Op	Op	20700	7000	B9.00/20	DB9.00/20	Wau 6-110	6-4x4 1/4	Fu 5-A-380	U5 No	Tim 58205	SF	R 7.8 54.6	12x2 1/2x4 1/2	TX
34	W-300	4	3750	Op	Op	25500	8200	B9.75/20	DB9.75/20	Wau 6-125	6-4x4 1/4	Fu 5-A-530	U5 No	Tim 65720H	SF	R 8.5 55.6	14x3x4 1/2	TX
35	W-400	5	895	130	157	6000	2800	B6.00/20	DB6.00/20	Con 25A (16)	6-3 1/2x4 1/4	War	U4 No	Cla B373	BF	R 5.10 31.6	7x3x4 1/2	T
36	Biederman	10 1 1/2	1195	157	170	8400	3200	B6.00/20	DB6.00/20	Wau 6B (16)	6-3 1/2x4 1/4	War	U4 No	Cla B373	BF	R 5.10 31.6	7x3x4 1/2	T
37	30	30	1295	157	170	11400	4100	B7.00/20	DB7.00/20	Wau 6B (16)	6-3 1/2x4 1/4	War	U4 No	Cla B373	BF	R 5.10 31.6	7x3x4 1/2	T
38	40 1/2	40 1/2	1795	180	200	16000	5400	B8.25/20	DB8.25/20	Wau 6B (16)	6-3 1/2x4 1/4	War	U4 No	Cla B373	BF	R 5.10 31.6	7x3x4 1/2	T
39	50 3	50 3	2400	180	200	20000	6450	B9.00/20	DB9.00/20	Wau 6B (16)	6-3 1/2x4 1/4	War	U4 No	Cla B373	BF	R 5.10 31.6	7x3x4 1/2	T
40	60 3	60 3	3150	180	210	20000	6820	B9.00/20	DB9.00/20	Lye ASE (16)	6-3 1/2x4 1/4	War	U4 No	Cla B373	BF	R 5.10 31.6	7x3x4 1/2	T
41	70 3 1/2	70 3 1/2	3600	157	210	24000	7530	B9.75/20	DB9.75/20	Her WXC3 (16)	6-4 1/2x4 1/2	War	U4 No	Cla B373	BF	R 5.10 31.6	7x3x4 1/2	T
42	80 5	80 5	4200	187	210	28000	8500	B10.50/20	DB10.50/20	Her WXC3 (16)	6-4 1/2x4 1/2	War	U4 No	Cla B373	BF	R 5.10 31.6	7x3x4 1/2	T
43	90 5 1/2	90 5 1/2	4800	187	210	32000	9200	B9.00/20	DB9.00/20	Con 28B	6-3 1/2x4 1/4	Wu T9	U5 No	Tim 54300H	SF	R 5.83 37.4	7 1/2x2 1/2x4 1/2	TX
44	100 2 1/2-3	2 1/2-3	1510	149	186	14000	4480	B7.00/20	DB7.00/20	Con 28B	6-3 1/2x4 1/4	Wu T9	U5 No	Tim 54300H	SF	R 5.83 37.4	7 1/2x2 1/2x4 1/2	TX
45	110 2 1/2-3	2 1/2-3	1855	168	200	15000	5125	B7.50/20	DB7.50/20	Con 28B	6-3 1/2x4 1/4	Wu T9	U5 No	Tim 54300H	SF	R 5.83 37.4	7 1/2x2 1/2x4 1/2	TX
46	120 2 1/2-3	2 1/2-3	2260	156	188	15000	5800	B7.50/20	DB7.50/20	Con 30B	6-4x4 1/4	BL 314	U4 No	Tim 54300H	SF	R 5.83 37.4	7 1/2x2 1/2x4 1/2	TX
47	130 2 1/2-3	2 1/2-3	2660	170	200	18500	6245	B8.25/20	DB8.25/20	Con 30B	6-4x4 1/4	BL 314	U4 No	Tim 54300H	SF	R 5.83 37.4	7 1/2x2 1/2x4 1/2	TX
48	140 3 1/2-4	3 1/2-4	3355	170	200	21000	7450	B9.00/20	DB9.00/20	Con 30B								

Line Number	ENGINE DETAILS										FUEL SYST.		ELEC-TRICAL		FRONT AXLE		BRAKES		BODY MOUNT-ING DATA		SPRINGS		Auxiliary Type										
	Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	MAIN BEARINGS		Oiling System Type	Governor Make	Carburetors Make	Fuel Feed	Ignition System Make	Generator, Starter Make	Clutch Type and Make	Radiator Make	Universal Make	Make and Model	Steering Gear Make	SERVICE			Hand Location, Type	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front	Rear				
								Piston Material	Number and Diameter												Length	Make, Location Type, Operation								Lining Area	Drum Material		
1468	4.4	322	43.3	120-2200		H	C	A	4-2 3/4	10 1/4	CC	Ha	Zen	V	DR	DR	P.B.L	Lo	Spl	Tim 27451	Ros	O41A	720	A	CD	172	102	13 1/4	42x3	56x4	56x4		
2707	4.4	500	60.	175-2200		H	C	A	7-3 3/4	14 1/4	CC	CC	Ha	Zen	M	DR	DR	dp.Lo	Lo	Spl	Tim 27451	Ros	O41A	816	A	CD	172	102	33 1/4	42x3	56x4	56x4	
4248	5.0	150	27.3	70-2800		L	G	C	A	7-2 3/4	10 1/4	FP	No	Zen	M	DR	DR	D.B.L	Yo	Spl	Tim	Ros	O41A	816	A	CD	172	102	33 1/4	42x3	56x4	56x4	
5339	4.7	225	38.4	73-2250		L	G	C	A	7-2 3/4	13 1/4	PC	Mo	Str	M	AL	AL	D.BB	Yo	Spl	Tim	Ros	L41HV	452	G	TX	129 1/2	Opt	31 1/4	40x2 1/2	50x3	50x3	
6339	4.7	225	38.4	73-2200		L	G	C	A	7-2 3/4	13 1/4	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Tim	Ros	L41HV	578	G	TX	106	Opt	31 1/4	40x2 1/2	62 1/2 x 2 1/2	54x3	54x3
7339	4.7	225	38.4	73-2200		L	G	C	A	7-2 3/4	13 1/4	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu	Ros	L41HV	658	G	TX	106	Opt	31 1/4	40x2 1/2	62 1/2 x 2 1/2	54x3	54x3
8360	4.7	238	40.3	80-2200		L	G	C	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu	Ros	L41HV	768	H	TX	106	Opt	31 1/4	41x2 1/2	62 1/2 x 3	54x3	54x3
9529	4.4	355	51.2	115-2200		L	G	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu	Own	W41A	847	G	TD	118	Opt	31 1/4	41x2 1/2	62 1/2 x 3	54x3	54x3	
10428	4.4	380	45.9	93-2200		L	G	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu	Own	L41HV	893	H	TD	93 1/2	Opt	31 1/4	41x2 1/2	62 1/2 x 3	54x3	54x3	
11478	4.4	318	51.2	103-2200		L	G	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu	Own	L41HV	893	H	TD	93 1/2	Opt	31 1/4	41x2 1/2	62 1/2 x 3	54x3	54x3	
12529	4.4	355	51.2	115-2200		L	G	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spl	Shu	Own	L41HV	893	H	TD	93 1/2	Opt	31 1/4	41x2 1/2	62 1/2 x 3	54x3	54x3	
13145	5.2	213	33.7	75-2400		L	G	C	A	7-3	12 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 31000	Ros	LO41DV	450	e	FD	88 1/2	60 1/4	34 1/4	42x3	54x3	54x3	
14358	5.2	240	38.4	84-2500		L	G	C	A	7-3	12 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 35000	Ros	LO41DV	519	e	FD	88 1/2	60 1/4	34 1/4	42x3	54x3	54x3	
15358	5.2	240	38.4	84-2500		L	G	C	A	7-3	12 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 35000	Ros	LO41DV	519	e	FD	88 1/2	60 1/4	34 1/4	42x3	54x3	54x3	
16358	5.2	240	38.4	84-2500		L	G	C	A	7-3	12 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 35000	Ros	LO41DV	519	e	FD	88 1/2	60 1/4	34 1/4	42x3	54x3	54x3	
17404	5.1	271	43.4	94-2500		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 35000	Ros	LO41DV	519	e	FD	188 1/2	102 1/4	34 1/4	42x3	53x3	53x3	
18404	5.1	271	43.4	94-2500		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 35000	Ros	LO41DV	519	e	FD	89 1/2	61 1/4	34 1/4	42x3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
20453	5.1	309	48.6	101-2400		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
21404	5.1	309	48.6	101-2400		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
22453	5.1	309	48.6	101-2400		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
23453	5.1	309	48.6	101-2400		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
24453	5.1	309	48.6	101-2400		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
25358	5.2	240	38.4	84-2500		L	G	C	A	7-3	12 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 35000	Ros	LO41DV	519	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
26358	5.2	240	38.4	84-2500		L	G	C	A	7-3	12 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 35000	Ros	LO41DV	519	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
27404	5.1	271	43.4	94-2500		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
28404	5.1	271	43.4	94-2500		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
29453	5.1	309	48.6	101-2400		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
30453	5.1	309	48.6	101-2400		L	G	C	A	7-3	14 1/4	FP	OW	Str	M	DR	DR	dp.Lo	GO	Spl	Tim 27450	Ros	LO41DV	543	e	FD	116 1/2	82 1/4	34 1/4	41 1/2 x 3	53 1/2 x 4	53 1/2 x 4	53 1/2 x 4
31245	5.1	165	29.4	73-3000		L	G	A	7-2 1/2	10 1/4	FP	Wa	Zen	M	DR	DR	P.Lo	Ch	Blo	Tim 30000H	Ros	L41H	269	a	TX	Opt	Opt	32	42 1/2 x 2 1/2	58x2 1/2	58x2 1/2	58x2 1/2	58x2 1/2
32245	5.1	165	29.4	73-3000		L	G	A	7-2 1/2	10 1/4	FP	Wa	Zen	M	DR	DR	P.Lo	Ch	Blo	Tim 31000H	Ros	L41H	330	a	TX	Opt	Opt	32	42 1/2 x 2 1/2	58x2 1/2	58x2 1/2	58x2 1/2	58x2 1/2
33245	5.1	165	29.4	73-3000		L	G	A	7-2 1/2	10 1/4	FP	Wa	Zen	M	DR	DR	P.Lo	Ch	Blo	Tim 31000H	Ros	L41H	330	a	TX	Opt	Opt	32	42 1/2 x 2 1/2	58x2 1/2	58x2 1/2	58x2 1/2	58x2 1/2
34282	5.1	158	33.8	85-3200		L	G	A	7-2 1/2	10 1/4	FP	Wa	Zen	M	DR	DR	P.B.L	Ch	Blo	Tim 33000H	Ros	L41H	330	a	TX	Opt	Opt	32	42 1/2 x 2 1/2	58x3	58x3	58x3	58x3
35458	5.1	254	38.8	110-2500		F	G	A	7-2 1/2	12 1/4	FP	Wa	Ma	M	DR	DR	P.B.B	Ch	Blo	Tim 35000H	Ros	L41H	330	a	TX	Opt	Opt	32	42 1/2 x 2 1/2	58x3	58x3	58x3	58x3
36245	5.0	324	45.9	125-2600		F	G	A	7-3	13 1/4	FP	Wa	Str	M	DR	DR	P.B.B	Ch	Blo	Tim 35000H	Ros	L41HV	462	E	FD	Opt	Opt	32	42 1/2 x 2 1/2	58x3	58x3	58x3	58x3
37245	5.0	142	27.3	72-3000		L	G	A	7-2 1/2	6 1/4	CC	Mo	Zen	M	DR	DR	P.B.B	Pe	MM	Cla F212	Ros	L41H	312	G	TX	89	54	34	47x2 1/2	60x2 1/2	60x2 1/2	60x2 1/2	60x2 1/2
38245	5.0	162	29.4	75-2800		L	G	A	7-2 1/2	10 1/4	CC	Mo	Zen	M	DR	DR	P.B.B	Pe	MM</														

Line Number	MAKE AND MODEL	Tonnage Rating	GENERAL (See Keynote)			TIRE SIZE		MAJOR UNITS								FRAME			
			Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	ENGINE		TRANSMISSION		REAR AXLE				Side Rail Dimensions	Type
										Make and Model	No. of Cylinders Bore and Stroke	Make and Model	Location and Forward Speeds	Make and Model	Location and Forward Speeds	Aux. Location and Speeds	Make and Model			Gear and Type	Drive and Torque	GEAR RATIOS In High In Low
1	Dodge Bros. K32	1 1/2-2	545	136	161	10500	2885	B6.00/20	P32x6	Own	6-3 1/2 x 4 1/2	Own	U4 Op	Own	SF	H 5.66	36.2	7 1/2 x 3 1/2	C
2	(Concluded) K32	1 1/2-2	560	136	161	10500	2885	B6.00/20	P32x6	Own	6-3 1/2 x 4 1/2	Own	U4 Op	Own	SF	H 5.66	36.2	7 1/2 x 3 1/2	C
3	K32	1 1/2-2	560	136	161	10500	2885	B6.00/20	P32x6	Own	6-3 1/2 x 4 1/2	Own	U4 Op	Own	SF	H 5.66	36.2	7 1/2 x 3 1/2	C
4	K35	2-4	870	140	190	12500	3580	B6.50/20	DB6.50/20	Own	6-3 1/2 x 4 1/2	Own	U5 Op	Own	SF	H 6.33	44.8	8 1/2 x 3 1/2	C
5	K45	2-4	870	140	190	12500	3580	B7.00/20	DB7.00/20	Own	6-3 1/2 x 4 1/2	Own	U5 Op	Own	SF	H 6.33	44.8	8 1/2 x 3 1/2	C
6	F40	2-4	1995	150	190	16000	5173	B6.50/20	DB6.50/20	Own	6-3 1/2 x 4 1/2	Own	U5 Op	Own	SF	H 6.37	43.7	9 1/4 x 3 1/2	C
7	K50	2-5	1995	150	190	16000	5344	P32x6	DP32x6	Own	6-3 1/2 x 4 1/2	Own	U4 Op	Own	SF	H 6.37	43.7	9 1/4 x 3 1/2	C
8	(5) F-61	2-5 1/2	2575	170	195	20000	5789	P32x6	DP32x6	Own	6-3 1/2 x 4 1/2	Own	U4 Op	Own	SF	H 7.12	48.8	10 1/2 x 3 1/2	C
9	(5) K-71	3-6	2575	170	195	20000	5789	P32x6	DP32x6	Own	6-3 1/2 x 4 1/2	Own	U4 Op	Own	SF	H 7.12	48.8	10 1/2 x 3 1/2	C
10	G-90	4-8	5250	146	220	25000	7640	B9.75/20	DB9.75/20	Own	8-3 1/2 x 4 1/2	Own	U5 Op	Own	SF	H 7.71	62.7	10 1/2 x 3 1/2	C
11	Duplex	S	3860	166	Op	18000	6250	B8.25/20	DB8.25/20	Bud K325	6-3 1/2 x 4 1/2	BL 2352	U5 No	Tim 65200	WF	R Opt	Opt	7 1/2 x 3 1/2	C
12	SAC	4	4800	172	Op	22000	7135	B9.75/20	DB9.75/20	Bud K428	6-4 1/2 x 4 1/2	BL 3353	U5 No	Tim 75733	w/2F	R Opt	Opt	7 1/2 x 3 1/2	C
13	K	4	5650	172	Op	27500	7525	B10.50/20	DB10.50/20	Bud L525	6-4 1/2 x 4 1/2	BL 5351	U5 No	Tim 76733	w/2F	R Opt	Opt	8 1/2 x 3 1/2	C
14	Eaco	2-2 1/2	2560	165	205	15000	5900	B7.50/20	DB7.50/20	Con E603	6-4 1/2 x 4 1/2	CI 105R	U5 No	Cla B642	BF	H 5.75	40.7	6 1/2 x 3 1/2	C
15	Pageol	106BK	1700	161	195	11200	5000	B6.50/20	DB6.50/20	Wau 6BK	6-3 1/2 x 4 1/2	WG T9	U4 No	Tim 53200H	BF	H 5.66	36.2	6 1/2 x 3 1/2	C
16	106RA	1825	161	195	12700	5100	B6.50/20	DB6.50/20	Wau 6BK	6-3 1/2 x 4 1/2	WG T9	U4 No	Tim 54200H	BF	H 5.83	37.1	6 1/2 x 3 1/2	C	
17	135HP	2-3	2250	161	195	13400	5800	B7.50/20	DB7.50/20	Wau 6-90	6-3 1/2 x 4 1/2	BL 234	U4 No	Tim 54200H	BF	H 5.83	37.1	6 1/2 x 3 1/2	C
18	135RA	2-3	2400	161	195	15000	6000	B7.50/20	DB7.50/20	Wau 6-90	6-3 1/2 x 4 1/2	BL 234	U4 No	Tim 56200H	BF	H 7.4	47.4	6 1/2 x 3 1/2	C
19	135BK	2-3	2050	161	195	13400	5700	B7.50/20	DB7.50/20	Wau 6BK	6-3 1/2 x 4 1/2	WG T9	U4 No	Tim 54200H	BF	H 5.83	37.1	6 1/2 x 3 1/2	C
20	250HP	2 1/2-4	3000	178	196	16300	7200	B8.25/20	DB8.25/20	Wau 6-110	6-4 1/2 x 4 1/2	BL 524	U4 No	Tim 56200H	BF	H 7.4	53.9	8 1/2 x 3 1/2	C
21	250MS	2 1/2-4	2700	178	196	16300	6875	B8.25/20	DB8.25/20	Wau 6MS	6-3 1/2 x 4 1/2	BL 334	U4 No	Tim 56200H	BF	H 7.4	45.4	8 1/2 x 3 1/2	C
22	250MK	2 1/2-4	2750	178	196	16300	6900	B8.25/20	DB8.25/20	Wau 6MK	6-4 1/2 x 4 1/2	BL 334	U4 No	Tim 56200H	BF	H 7.4	45.4	8 1/2 x 3 1/2	C
23	250RA	2 1/2-4	3150	178	196	19500	7400	B8.25/20	DB8.25/20	Wau 6-110	6-4 1/2 x 4 1/2	BL 524	U4 No	Tim 58200H	BF	H 7.8	56.8	8 1/2 x 3 1/2	C
24	300HP	3-5	3500	178	196	20700	7900	B9.00/20	DB9.00/20	Wau 6-110	6-4 1/2 x 4 1/2	BL 524	U4 No	Tim 58200H	BF	H 7.8	56.8	8 1/2 x 3 1/2	C
25	300RA	3-5	3775	178	196	25300	8400	B9.00/20	DB9.00/20	Wau 6-110	6-4 1/2 x 4 1/2	BL 524	U4 No	Tim 65725H	WF	R 7.8	56.8	8 1/2 x 3 1/2	C
26	370HP	5-6	5000	182	200	25300	9950	B9.75/20	DB9.75/20	Wau 6-125	6-4 1/2 x 4 1/2	BL 734	U4 A 3	Tim 65725H	WF	R 5.7	120.7	7 1/2 x 3 1/2	C
27	370SR	5-6	4850	182	200	25300	9750	B9.75/20	DB9.75/20	Wau 6SRK	6-4 1/2 x 4 1/2	BL 734	U4 A 3	Tim 65725H	WF	R 5.5	116.7	7 1/2 x 3 1/2	C
28	370RK	5-6	5250	182	200	31000	10200	B9.75/20	DB9.75/20	Wau 6-125	6-4 1/2 x 4 1/2	BL 734	U4 A 3	Tim 66720H	WF	R 5.5	116.7	7 1/2 x 3 1/2	C
29	470HP	6-7	5500	182	200	33500	10350	B9.75/20	DB9.75/20	Wau 6-125	6-4 1/2 x 4 1/2	BL 734	U4 A 3	Tim 66720H	WF	R 5.5	116.7	7 1/2 x 3 1/2	C
30	685RB	8-10	7100	174	174	42000	12750	B10.50/24	DB10.50/24	Wau 6RB	6-5 1/2 x 4 1/2	BL 734	U4 A 3	Tim 68720H	WF	R 6.54	144.8	8 1/2 x 4 1/2	C
31	Federal	DM	975	120	120	8000	3050	B6.00/20	P32x6	Con W10	4-3 1/2 x 4 1/2	WG T9	U4 No	Cla B374	SF	H 5.67	36.2	6 1/2 x 3 1/2	C
32	15X	1 1/2	745	137	174	10000	3500	B6.00/20	P32x6	Her JXA	6-3 1/2 x 4 1/2	WG T9	U4 No	Cla B374	SF	H 6.38	40.8	8 1/2 x 2 1/2	C
33	18X	2	845	137	187	11000	3800	B6.50/20	DB6.50/20	Her JXA	6-3 1/2 x 4 1/2	WG T9	U4 No	Cla B484	SF	H 6.38	40.8	8 1/2 x 2 1/2	C
34	20X	2	1065	137	187	12000	3900	B6.50/20	DB6.50/20	Her JXB	6-3 1/2 x 4 1/2	WG T9	U4 No	Tim 54300H	SF	H 6.80	43.5	8 1/2 x 2 1/2	C
35	25X	2 1/2	1325	137	201	14000	4500	B7.00/20	DB7.00/20	Her JXC	6-3 1/2 x 4 1/2	Cla R115	U5 No	Cla B640	SF	H 6.38	45.8	2 1/2 x 2 1/2	C
36	30X	3	2095	175	237	16000	6050	B8.25/20	DB8.25/20	Wau 6MS	6-3 1/2 x 4 1/2	Cla R114	U5 No	Cla B642	SF	H 6.43	45.8	10 1/2 x 3 1/2	C
37	40X	3 1/2	2490	175	237	19000	6550	B9.00/20	DB9.00/20	Wau 6MK	6-4 1/2 x 4 1/2	Cla R908	U5 No	Tim 58200H	SF	H 6.83	55.5	10 1/2 x 3 1/2	C
38	40DR	3 1/2	2615	175	237	19000	6550	B9.00/20	DB9.00/20	Wau 6MK	6-4 1/2 x 4 1/2	Cla R908	U5 No	Tim 58200H	SF	H 6.83	55.5	10 1/2 x 3 1/2	C
39	T10B	3 1/2	2685	165	230	19000	6550	B9.00/20	DB9.00/20	Con 18R	6-4 1/2 x 4 1/2	Own 7784	A 4 No	Tim 58200H	SF	H 6.83	55.5	10 1/2 x 3 1/2	C
40	U6-U6DR	4 1/2-5	3860	165	230	22000	7420	P36x8	DP36x8	Con 20R	6-4 1/2 x 4 1/2	Cla B 710	A 5 No	Tim 57333H	WF	R 7.75	50.9	10 1/2 x 3 1/2	C
41	C7-C7W	6	4710	195	249	26000	9550	B9.75/20	DB9.75/20	Wau 6MZ	6-4 1/2 x 4 1/2	Cla R908	U5 No	Tim 76736H	WF	R 7.89	51.3	7 1/2 x 3 1/2	C
42	C8-C8W	6	5120	195	249	26000	9650	B9.75/20	DB9.75/20	Wau 6SRK	6-4 1/2 x 4 1/2	Cla B 710	U5 No	Tim 76736H	WF	R 7.89	51.3	7 1/2 x 3 1/2	C
43	X8DR-X8	7 1/2	4355	162	186	30000	9750	S36x6	S40x14	Con B7	6-4 1/2 x 4 1/2	Cla B 710	A 5 No	Tim 68700DP	WF	R 11.7	76.0	9 1/2 x 3 1/2	C
44	X8DR-X8R	7 1/2	4735	162	186	30000	10475	P40x8	DP40x8	Wau 6SRK	6-4 1/2 x 4 1/2	Cla B 710	A 5 No	Tim 68702DP	w/2F	R 11.7	76.0	9 1/2 x 3 1/2	C
45	Ford	Truck (14)	470	131	131	8000	2770	B6.00/20	P32x6	Own	4-3 1/2 x 4 1/2	Own	U4 No	Own	SF	H 5.67	36.2	7 1/2 x 3 1/2	C
46	Truck (14)	1 1/2	490	157	157	8000	2880	B6.00/20	P32x6	Own	4-3 1/2 x 4 1/2	Own	U4 No	Own	SF	H 5.67	36.2	7 1/2 x 3 1/2	C
47	Truck (14)	1 1/2	500	131	131	8000	2885	B6.00/20	P32x6	Own	4-3 1/2 x 4 1/2	Own	U4 No	Own	SF	H 5.67	36.2	7 1/2 x 3 1/2	C
48	Truck (14)	1 1/2	520	157	157	8000	2885	B6.00/20	P32x6	Own									

Line Number	ENGINE DETAILS										FUEL SYST.	ELEC-TRICAL	FRONT AXLE	BRAKES		BODY MOUNT-ING DATA		SPRINGS		Auxiliary Type											
	Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	Camshaft Drive	MAIN BEARINGS		Governor Make				Carburetors Make	Fuel Feed	Ignition System Make	Generator, Starter Make	Clutch Type and Make	Radiator Make		Universal Make	Make and Model	Steering Gear Make	SERVICE		Hand Location, Type	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front	Rear
								Piston Material	Number and Diameter															Length	Oiling System Type							Lining Area	Drum Material	Make, Location Type, Operation
1	1217	5.6	150	25.3	70-3000	L	L	SA-4-2 1/2	5 1/2	CC	No	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O4IH	176	a	TX	85 1/2	51 1/2	34	36x1 1/2	48x2 1/2	N	
2	201	5.8	138	22.4	72-3000	L	L	AA-4-2 1/2	5 1/2	CC	Mo	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O4IH	176	a	TX	85 1/2	51 1/2	34	36x1 1/2	48x2 1/2	N	
3	242	5.5	170	27.3	85-3200	L	L	AA-4-2 1/2	6 1/4	CC	Mo	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O4IH	232	TX	91 1/2	55 1/2	34	39x2	48x2 1/2	N		
4	242	5.5	170	27.3	85-3200	L	L	AA-4-2 1/2	6 1/4	CC	Mo	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O4IH	232	TX	91 1/2	55 1/2	34	39x2	48x2 1/2	N		
5	242	5.5	170	27.3	85-3200	L	L	AA-4-2 1/2	6 1/4	CC	Mo	Car	M	DR	DR	P.B.B	Fe	Own	Own	Own	O4IH	232	TX	91 1/2	55 1/2	34	39x2	48x2 1/2	N		
6	309	4.7	200	31.5	96-3000	L	L	GG-7-2 1/2	11 1/2	CC	Mo	Det	M	DR	DR	P.B.B	Lo	Own	Own	Own	Jac	O4IH	348	CD	124 1/2	69 1/2	33 1/2	42x3	56 1/2 x 3	N	
8	309	4.7	200	31.5	96-3000	L	L	GG-7-2 1/2	11 1/2	CC	Mo	Det	M	DR	DR	P.B.B	Lo	Own	Own	Own	Jac	O4IH	416	CD	149 1/2	89 1/2	34	42x3	56x3 1/2	N	
9	309	4.7	200	31.5	96-3000	L	L	GG-7-2 1/2	11 1/2	CC	Mo	Det	M	DR	DR	P.B.B	Lo	Own	Own	Own	Jac	O4IH	416	CD	149 1/2	89 1/2	34	42x3	56x3 1/2	N	
10	345	5.0	260	39.2	115-3000	L	L	GG-7-2 1/2	13	CC	Mo	Str	M	DR	DR	P.B.B	Lo	Own	Own	Own	Jac	Ws41A	600	CD	99 1/2	65 1/2	34	42x3	56x3 1/2	N	
11	359	4.6	213	34.4	77-2100	L	L	CC-7-3	11 1/2	CC	No	Str	F	AL	AL	P.B.L	Yo	Cle	Shu 5572	Ros	L4IHV	399	TD	Opt	79	34	38x2 1/2	52x2 1/2	N		
12	359	4.6	213	34.4	77-2100	L	L	CC-7-3	11 1/2	CC	No	Str	F	AL	AL	P.B.L	Yo	Cle	Shu 5572	Ros	L4IHV	399	TD	Opt	79	34	38x2 1/2	52x2 1/2	N		
13	525	4.5	336	48.6	111-2400	L	L	GG-7-3	11 1/2	FP	Mo	Str	F	AL	AL	P.B.L	Yo	Cle	Shu 637	Ros	L4IHV	504	TD	Opt	85	34	42x3	52x3	N		
14	382	4.6	190	43.3	95-2500	L	L	GG-7-2 1/2	12 1/2	CC	Ha	Zen	M	DR	DR	P.B.B	Yo	Spl	Cla F308	Ros	L4IHV	350	TX	136 1/2	82	34	40 1/2 x 3	55 1/2 x 3	N		
15	282	5.1	150	33.7	82-2800	L	L	GG-7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3000H	Ros	L4IHV	272	G	TX	144	81 1/2	34	37 1/2 x 2 1/2	56x3	N	
16	282	5.1	150	33.7	82-2800	L	L	GG-7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3000H	Ros	L4IHV	272	G	TX	144	81 1/2	34	37 1/2 x 2 1/2	56x3	N	
17	255	5.3	182	27.3	90-3200	L	L	GG-7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3100H	Ros	L4IHV	306	G	TX	144	81 1/2	34	37 1/2 x 2 1/2	56x3	N	
18	255	5.3	182	27.3	90-3200	L	L	GG-7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3100H	Ros	L4IHV	355	G	TX	144	81 1/2	34	37 1/2 x 2 1/2	56x3	N	
19	282	5.2	150	33.7	82-2800	L	L	GG-7-2 1/2	10 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3100H	Ros	L4IHV	306	G	TX	144	81 1/2	34	37 1/2 x 2 1/2	56x3	N	
20	358	5.2	254	38.4	110-2800	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3302H	Ros	L4IHV	355	G	FD	167 1/2	97 1/2	34	41x2 1/2	56x3	N	
21	315	4.6	200	33.7	70-2200	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3302H	Ros	L4IHV	355	G	TX	167 1/2	97 1/2	34	41x2 1/2	56x3	N	
22	315	4.6	200	33.7	70-2200	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3302H	Ros	L4IHV	355	G	TX	167 1/2	97 1/2	34	41x2 1/2	56x3	N	
23	358	5.2	254	38.4	110-2800	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3302H	Ros	L4IHV	398	G	FD	167 1/2	97 1/2	34	41x2 1/2	56x3	N	
24	358	5.2	254	38.4	110-2800	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3502H	Ros	L4IHV	398	G	FD	167 1/2	97 1/2	34	41x2 1/2	60 1/2 x 3	N	
25	462	5.2	324	46.0	125-2600	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3500H	Ros	L4IHV	484	G	FD	172 1/2	101 1/2	33 1/2	41x3	60 1/2 x 3	N	
26	462	5.2	324	46.0	125-2600	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3500H	Ros	L4IHV	484	G	FD	172 1/2	101 1/2	33 1/2	41x3	60 1/2 x 3	N	
27	517	5.4	340	51.3	108-2600	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3500H	Ros	L4IHV	484	G	FD	172 1/2	101 1/2	33 1/2	41x3	60 1/2 x 3	N	
28	462	5.2	324	46.0	125-2600	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 3500H	Ros	L4IHV	663	G	FD	172 1/2	101 1/2	33 1/2	41x3	60 1/2 x 3	N	
29	462	5.2	324	46.0	125-2600	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 2645H	Ros	L4IHV	717	G	FD	172 1/2	101 1/2	33 1/2	41x3	60 1/2 x 3	N	
30	462	5.2	324	46.0	125-2600	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Pe	Blo	Tim 2705H	Ros	Ws41A	757	G	FD	132	86	34	42 1/2 x 3	64 1/2 x 3	N	
31	377	4.4	140	60.0	125-1800	L	L	GG-7-3	11 1/2	CC	No	Zen	M	DR	DR	P.L	Lo	Spl	Cla F212	Ge	L4IH	200	TX	101	51 1/2	34	38 1/2 x 2 1/2	50x2 1/2	N		
32	377	4.4	140	60.0	125-1800	L	L	GG-7-3	11 1/2	CC	No	Zen	M	DR	DR	P.L	Lo	Spl	Cla F274	Ge	L4IH	250	TX	101	51 1/2	34	38x2 1/2	50x2 1/2	N		
33	228	4.7	149	27.3	62-2600	L	L	GG-7-2 1/2	10 1/2	PC	No	Car	M	DR	DR	P.B.B	Lo	Spl	Cla F274	Ge	L4IH	260	TX	101	51 1/2	34	38x2 1/2	50x2 1/2	N		
34	228	4.7	149	27.3	62-2600	L	L	GG-7-2 1/2	10 1/2	PC	No	Car	M	DR	DR	P.B.B	Lo	Spl	Cla F274	Ge	L4IH	260	TX	101	51 1/2	34	38x2 1/2	50x2 1/2	N		
35	263	5.4	164	31.5	67-2600	L	L	GG-7-2 1/2	10 1/2	PC	Mo	Car	M	DR	DR	P.B.B	Lo	Spl	Tim 3102H	Ge	L4IH	336	TX	101	51 1/2	34	38x2 1/2	50x2 1/2	N		
36	282	5.4	176	33.7	72-2600	L	L	GG-7-2 1/2	10 1/2	PC	Mo	Car	M	DR	DR	P.B.B	Lo	Spl	Cla F308	Ge	L4IH	336	TX	101	51 1/2	34	38x2 1/2	50x2 1/2	N		
37	315	5.0	200	33.8	73-2500	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.B.B	Lo	Spl	Cla F320	Ge	L4IHV	336	FD	115	82	34	42x2 1/2	52x3	N		
38	315	5.0	200	33.8	73-2500	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.B.B	Lo	Spl	Cla F320	Ge	L4IHV	336	FD	115	82	34	42x2 1/2	52x3	N		
39	381	4.8	240	40.8	85-2400	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.B.B	Lo	Spl	Cla F320	Ros	L4IHV	379	FD	115	82	34	42x2 1/2	52x3	N		
40	339	4.2	212	38.4	80-2200	H	C	CC-7-2 1/2	13 1/2	CC	Mo	Zen	M	DR	DR	P.B.B	Lo	PS	Own 7738	Ros	L4IHV	379	TI	117	79	34	42x2 1/2	54x3	N		
41	339	4.2	212	38.4	80-2200	H	C	CC-7-2 1/2	13 1/2	CC	Mo	Zen	M	DR	DR	P.B.B	Lo	PS	Own 7738	Ros	L4IHV	379	TI	117	79	34	42x2 1/2	54x3	N		
42	381	4.2	237	40.8	85-2200	H	C	CC-7-2 1/2	13 1/2	CC	Mo	Zen	M	DR	DR	P.B.B	Lo	PS	Own 7720	Ros	L4IHV	465	FD	117	79	34	42x2 1/2	54x3	N		
43	404	6.0	274	42.5	90-2400	L	L	GG-7-2 1/2	12 1/2	FP	No	Zen	M	DR	DR	P.B.B	Lo	Spl	Tim 3500H	Ros	L4IHV	465	FD	117	79	34	42x2 1/2	54x3	N		
44	517	4.3	300	51.3	110-2200	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Lo	Spl	Tim 3602H	Ha	L4IHV	456	TD	162	102	34	42x3	56x3 1/2	N		
45	517	4.3	300	51.3	110-2200	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Lo	Spl	Tim 3602H	Ha	L4IHV	456	TD	162	102	34	42x3	56x3 1/2	N		
46	471	3.7	288	40.0	61-1350	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.B.B	Lo	PS	Own 5008	Ge	T21MV	568	RI	151	87	38	44x3	56x3 1/2	N		
47	517	4.3	300	51.3	110-2200	L	L	GG-7-3	13 1/2	FP	No	Zen	M	DR	DR	P.L	Lo	PS	Own 5008	Ros	T21MV	568	RI	151	87	38	44x3	56x3 1/2	N		
48	200	5.6	128	24.0	50-2800	L	L	GG-7-2 1/2	7	PS	Ha	Zen	P	OW	OW	P.L	OW	Own	Own	Own	O4IM	344	2I	120 1/2	76 1/2	38	33x2 1/2	50x2 1/2	N		
49	220	5.9	148	30.0	51-3800	L	L	GG-7-2 1/2	7	PS	Mo	Str	P	OW	OW	P.L	OW	Own	Own	Own	O4IM	344	2I	109 1/2	51 1/2	38	33x2 1/2	50x2 1/2	N		
50	220	5.9	148	30.0	51-3800	L	L	GG-7-2 1/2	7	PS	Mo	Str	P	OW	OW	P.L	OW	Own	Own	Own	O4IM	344	2I	109 1/2	51 1/2	38	33x2 1/2	50x2 1/2	N		
51	220	5.9	148	30.0	51-3800	L	L	GG-7-2 1/2	7	PS	Mo	Str	P	OW	OW	P.L	OW	Own	Own	Own	O4IM	344	2I	109 1/2	51 1/2	38	33x2 1/2	50x2 1/2			

Line Number	MAKE AND MODEL	Tonnage Rating	GENERAL (See Keynote)			TIRE SIZE			MAJOR UNITS										FRAME		
			Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders Bore and Stroke	ENGINE		TRANSMISSION		REAR AXLE		Gear and Type	Drive and Torque	Side Rail Dimensions	Type
												Make and Model	Location and Forward Speeds	Make and Model	Location and Forward Speeds	Make and Model	Location and Forward Speeds				
1	Hug (Concluded) 43	3 1/2	3510	146	201	23000	7800	B9.75/20	DB9.75/20	Bud K428	6-4 1/2 x 4 1/2	Fu 5-A-530	U 5	No	Wis 1237H	2F	H 8.95	62.0	8 1/2 x 3 1/2	T	
2	870 5	5	4985	144	144	28200	8300	B10.50/20	DB10.50/20	Bud K428	6-4 1/2 x 4 1/2	Fu 5-A-530	A 5	A 2	Wis 1737K	2F	H 9.16	99.0	8 1/2 x 3 1/2	T	
3	431 5	5	4325	146	201	28105	8905	B9.75/20	DB9.75/20	Bud L525	6-4 1/2 x 5 1/2	Fu 5-A-530	U 5	A 2	Wis 1737KW	2F	H 9.16	64.0	8 1/2 x 3 1/2	T	
4	971 7 1/2	7 1/2	5925	144	144	35620	10810	B10.50/20	DB10.50/20	Bud L525	6-4 1/2 x 5 1/2	Fu 5-A-530	U 5	A 2	Wis 19027	2F	H 11.1	178	8 1/2 x 3 1/2	T	
5	Indiana 85 1 1/2	1 1/2	1025	141	186	10000	3950	B6.50/20	DB6.50/20	Her JXC	6-3 1/2 x 4 1/2	BL 124	U 4	No	Tim 53200H	SF	H 5.66	35.1	7 1/2 x 2 1/2	T	
6	952 1 1/2	1 1/2	1195	141	186	12000	4400	P32x6	DP32x6	Her JXC	6-3 1/2 x 4 1/2	BL 224	U 4	No	Tim 54300H	SF	H 5.85	36.2	7 1/2 x 2 1/2	T	
7	95DR 2 1/2	2 1/2	1275	141	186	15000	4650	B7.50/20	DB7.50/20	Her JXC	6-3 1/2 x 4 1/2	BL 224	U 4	Op	Wis 4916L	2F	H 6.66	41.2	7 1/2 x 2 1/2	T	
8	17A 3	3	2300	156	212	17000	6300	B8.25/20	DB8.25/20	Her WXC	6-4 1/2 x 4 1/2	BL 3341	U 4	A 3	Tim 58205H	SF	H 6.83	43.0	8 1/2 x 3 1/2	T	
9	17ADR 3	3	2475	156	212	18000	6350	B8.25/20	DB8.25/20	Her WXC	6-4 1/2 x 4 1/2	BL 3341	U 4	Op	Wis 70000H	2F	H 7.06	44.5	8 1/2 x 3 1/2	T	
10	173 3	3	2450	170	224	18000	6600	B8.25/20	DB8.25/20	Her YXC	6-4 1/2 x 4 1/2	BL 3341	U 4	Op	Tim 58205H	SF	H 6.14	38.7	8 1/2 x 3 1/2	T	
11	17DR 3 1/2	3 1/2	2675	170	224	19000	6700	B8.25/20	DB8.25/20	Her YXC	6-4 1/2 x 4 1/2	BL 334	U 4	Op	Wis 70000	2F	H 6.28	38.6	8 1/2 x 3 1/2	T	
12	43DR 4	4	3400	170	224	22000	7800	B9.00/20	DB9.00/20	Her YXC	6-4 1/2 x 4 1/2	BL 524	U 4	Op	Wis 1237H	2F	H 7.2	52.9	8 1/2 x 3 1/2	T	
13	43DR 4	4	4300	170	224	25000	8000	B9.75/20	DB9.75/20	Her RXB	6-4 1/2 x 5 1/2	BL 524	U 4	Op	Wis 1627KH	2F	H 6.96	50.7	8 1/2 x 3 1/2	T	
14	45DR 5	5	4800	170	224	25000	8700	B9.75/20	DB9.75/20	Her RXC	6-4 1/2 x 5 1/2	BL 534	U 4	Op	Wis 1737H	2F	H 7.14	45.4	8 1/2 x 3 1/2	T	
15	47DR 5-7	5-7	7500	188	244	28000	10500	B10.50/20	DB10.50/20	Cum.6HDie	6-4 1/2 x 6	BL 7351	A 5	No	Wis 1910W	2F	H 7.16	45.0	8 1/2 x 3 1/2	T	
16	International C1 1/2	1 1/2	390	113	125	4400	2220	B5.25/18	B5.25/18	Ow'n HD	6-3 1/2 x 4 1/2	Ow'n D	U 3	No	Ow'n HDR-55	SF	H 4.18	12.8	5 1/2 x 2 1/2	T	
17	M2 1 1/2	1 1/2	850	118	118	7100	3215	B6.50/20	B6.50/20	Wau XAH	6-3 1/2 x 4 1/2	Ow'n H4A	U 4	No	Ow'n 713	SF	H 4.17	12.5	5 1/2 x 2 1/2	T	
18	(8) A2 1 1/2	1 1/2	575	136	160	8000	2930	B6.00/20	B6.00/20	Wau XAH	6-3 1/2 x 4 1/2	Ow'n H4A	U 4	No	Ow'n 708	SF	H 5.29	33.5	5 1/2 x 2 1/2	T	
19	B3 1 1/2	1 1/2	695	136	175	10100	3530	P30x5	P32x6	Ow'n FAB-2	6-3 1/2 x 4 1/2	Ow'n H4A	U 4	No	Ow'n 720	SF	H 6.17	39.5	7 1/2 x 2 1/2	T	
20	B4 1 1/2	1 1/2	1045	145	185	13000	4230	B6.50/20	DB6.50/20	Ow'n FAB-3	6-3 1/2 x 4 1/2	Ow'n H4A	U 4	No	Ow'n 750	SF	H 6.50	41.6	8 1/2 x 3 1/2	T	
21	A2 1 1/2	1 1/2	1625	145	185	16500	5706	P32x6	DP32x6	Ow'n FBB	6-3 1/2 x 4 1/2	Ow'n H5	U 5	Op	Ow'n 902	SF	H 6.50	47.7	8 1/2 x 3 1/2	T	
22	A3 1 1/2	1 1/2	2100	140	210	19100	6238	P34x7	DP34x7	Ow'n FBB	6-3 1/2 x 4 1/2	Ow'n H5	U 5	Op	Ow'n 1002	SF	H 7.16	52.7	8 1/2 x 3 1/2	T	
23	A6 1 1/2	1 1/2	2450	140	210	21600	6526	P34x7	DP34x7	Ow'n FBB	6-3 1/2 x 4 1/2	Ow'n H5	U 5	Op	Ow'n 2612	2F	H 8.50	62.5	8 1/2 x 3 1/2	T	
24	W2 3 1/2	3 1/2	3300	130	200	24000	8250	P36x8	DP36x8	HS 151	4-4 1/2 x 5 1/2	Ow'n H6	U 5	Op	Ow'n 1200	2F	H 8.40	74.2	7 1/2 x 3 1/2	T	
25	A7 5-7 1/2	5-7 1/2	6200	160	225	37000	11590	B9.75/20	DB9.75/20	Ow'n FDB	6-4 1/2 x 5 1/2	Ow'n H7	U 5	Op	Ow'n 1301	2F	H 6.38	37.1	12 1/2 x 3 1/2	T	
26	146B 3-4	3-4	3300	158	206	19500	5960	B9.00/20	DB9.00/20	Ow'n FEE	6-4 1/2 x 5 1/2	Ow'n H7	U 5	Op	Ow'n 1301	2F	H 6.38	37.1	12 1/2 x 3 1/2	T	
27	Keuworth 87 1 1/2-2	1 1/2-2	1245	146	170	11200	3900	B6.50/20	DB6.50/20	Her JXC	6-3 1/2 x 4 1/2	BL 234	U 4	No	Tim 53200H	SF	H 5.14	33.1	7 1/2 x 2 1/2	T	
28	88 2	2	1480	146	200	13400	4400	P32x6	DP32x6	Bud H298	6-3 1/2 x 4 1/2	BL 234	U 4	Op	Tim 54300H	SF	H 5.83	37.4	8 1/2 x 3 1/2	T	
29	101B 2-2 1/2	2-2 1/2	2050	146	200	13400	4700	B7.50/20	DB7.50/20	Her JXC	6-3 1/2 x 4 1/2	BL 234	U 4	Op	Tim 54300H	SF	H 5.83	37.4	8 1/2 x 3 1/2	T	
30	89 2 1/2	2 1/2	1670	146	200	15000	4600	B7.50/20	DB7.50/20	Her JXC	6-3 1/2 x 4 1/2	BL 234	U 4	Op	Tim 56200H	SF	H 6.16	39.5	8 1/2 x 3 1/2	T	
31	127 2-3 1/2	2-3 1/2	2600	154	202	16300	5490	B8.25/20	DB8.25/20	Her WXC	6-4 1/2 x 4 1/2	BL 334	U 4	Op	Tim 56200H	SF	H 6.16	39.5	8 1/2 x 3 1/2	T	
32	90 3	3	1820	146	200	18200	5500	B7.50/20	DB7.50/20	Her JXC	6-3 1/2 x 4 1/2	BL 234	U 4	Op	Tim 58205H	SF	H 6.83	43.8	8 1/2 x 3 1/2	T	
33	146B 3-4	3-4	3300	158	206	19500	5960	B9.00/20	DB9.00/20	Bud K393	6-4 1/2 x 4 1/2	BL 334	U 4	Op	Tim 58205H	SF	H 6.83	43.8	8 1/2 x 3 1/2	T	
34	D146B 3-4	3-4	5770	158	206	19500	7500	B9.00/20	DB9.00/20	Bud D6-415	6-4 1/2 x 4 1/2	BL 5341	U 4	Op	Tim 58206H	WF	H 6.83	43.8	8 1/2 x 3 1/2	T	
35	D-146 C-3 1/4	3 1/4	6250	158	206	19500	7600	B9.00/20	DB9.00/20	Cum HA-4	4-4 1/2 x 6	BL 5341	U 4	Op	Tim 58206H	WF	H 6.83	43.8	8 1/2 x 3 1/2	T	
36	166B 3 1/4-4	3 1/4-4	3850	156	204	20700	6890	B9.00/20	DB9.00/20	Bud K393	6-4 1/2 x 4 1/2	BL 334	U 4	Op	Tim 58205H	SF	H 6.83	43.8	8 1/2 x 3 1/2	T	
37	166A 3 1/4-4	3 1/4-4	4330	156	204	20700	6890	B9.00/20	DB9.00/20	Has 147	6-4 1/2 x 4 1/2	BL 334	U 4	Op	Tim 58205H	SF	H 6.83	43.8	8 1/2 x 3 1/2	T	
38	180 4-5	4-5	4675	155	221	25600	7710	B9.75/20	DB9.75/20	Her YXC2	6-4 1/2 x 4 1/2	BL 1554	U 4	A 3	Tim 75720H	2F	H 7.33	105	7 1/2 x 3 1/2	T	
39	241 5-7	5-7	5450	169	221	27800	9000	B9.75/20	DB9.75/20	Her RXB	6-4 1/2 x 5 1/2	BL 7341	U 4	A 3	Tim 76720H	2F	H 7.33	85.5	7 1/2 x 3 1/2	T	
40	241A 5-7	5-7	5500	169	228	27800	9500	B9.75/20	DB9.75/20	Has 160	6-4 1/2 x 5 1/2	BL 7341	U 4	A 3	Tim 76720H	2F	H 7.33	85.5	7 1/2 x 3 1/2	T	
41	241B 5-7	5-7	6150	174	228	27800	9500	B9.75/20	DB9.75/20	Bud GL-6	6-4 1/2 x 6	BL 7341	U 4	A 3	Tim 76720H	2F	H 7.33	85.5	7 1/2 x 3 1/2	T	
42	241C 5-7	5-7	7200	174	228	27800	10000	B9.75/20	DB9.75/20	Has 175	6-5 1/2 x 6	BL 7341	U 4	A 3	Tim 76720H	2F	H 6.38	86.5	8 1/2 x 3 1/2	T	
43	Kleiber 100 1 1/2-2 1/2	1 1/2-2 1/2	1300	140	160	11200	3950	B7.00/20	DB7.00/20	Her JXC	6-3 1/2 x 4 1/2	BL 2241	U 4	No	Tim 53200H	BF	H 5.14	34.0	5 1/2 x 2 1/2	T	
44	100 2-2 1/2	2-2 1/2	1575	158	170	13400	4400	B7.50/20	DB7.50/20	Her JXC	6-3 1/2 x 4 1/2	BL 3241	U 4	No	Tim 54200H	BF	H 5.81	38.7	7 1/2 x 3 1/2	T	
45	120 2-3 1/2	2-3 1/2	2100	170	180	16300	5150	B8.25/20	DB8.25/20	Con E601	6-3 1/2 x 4 1/2	BL 3241	U 4	No	Tim 56200H	BF</					

Line Number	ENGINE DETAILS										FUEL SYST.	ELEC-TRICAL	FRONT AXLE				BRAKES			BODY MOUNT-ING DATA		SPRINGS								
	Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Max. Brake H.P. at R.P.M. Given	Valve Arrangement	MAIN BEARINGS			Governor Make			Carburetors Make	Fuel Feed	Ignition System Make	Generator, Starter Make	Clutch Type and Make	Radiator Make	Universal Make	Steering Gear Make	SERVICE			Hand Location, Type	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front	Rear	Auxiliary Type
							Piston Material	Number and Diameter	Length												Make, Location Type, Operation	Lining Area	Drum Material							
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 632-3	Ros	LAIH	620	P	GD	TD	96 1/4	70 3/4	31 1/4	41 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 610-103	Ros	W2IM	360	P	GD	TD	96 1/4	70 3/4	31 1/4	41 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 633-11	Ros	41A	556	P	GD	TD	96 1/4	70 3/4	31 1/4	41 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 610-103	Ros	W2IM	360	P	GD	TD	96 1/4	70 3/4	31 1/4	41 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Tim 3002OH	Ros	LAIH	358	G	TX	TX	92	56	34	37 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Tim 31020	Ros	LAIH	358	G	TX	TX	92	56	34	37 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 5572	Ros	LAIH	358	G	TX	TX	92	56	34	37 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 5572	Ros	LAIHV	380	G	TX	TX	108	69	34	39 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 15582B	Ros	LAIHV	380	G	TX	TX	108	69	34	39 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 15582	Ros	LAIHV	380	G	TX	TX	108	69	34	39 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 15592B	Ros	LAIHV	380	G	TX	TX	108	69	34	39 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 15592B	Ros	LAIHV	380	G	TX	TX	108	69	34	39 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Shu 1633W	Ros	W41A	560	G	TX	TX	144	90	34	40 1/2	54 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own HD5F-50	Ros	B41M	156	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	107	2600	L	G	B7-3	Pe	Zen	M	AL	DR	D.Fu	Yo	Bl	Own 101	Ros	B41M	217	C	TE	TE	41	55H	29 1/2	36 1/2	51 1/2	x3		
14284.8	1280	45.9	10																											

GENERAL (See Keynote)										TIRE SIZE		MAJOR UNITS										FRAME			
Line Number	MAKE AND MODEL	Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders Bore and Stroke	TRANSMISSION		REAR AXLE		Gear and Type	Drive and Torque	GEAR RATIOS		Side Rail Dimensions	Type	Line Number	Piston Displacement		
												Make and Model	Location and Forward Speeds	Make and Model	Location and Forward Speeds			In High	In Low						
1	Schacht (Con.) 40HB	7-9	4695	156	239	29500	7750	B10.50/20	DB10.50/20	Her YXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U5	No	Wls	2F	R 7.07	49.7	8 1/2 x 3 1/2	P	1428	4			
2	66HA	8-11	5895	154	251	35000	9820	B10.50/24	DB10.50/24	Her RXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U5	No	Wls	2F	R 7.07	49.8	8 1/2 x 3 1/2	P	2529	4			
3	(T) TRD	10	4150	150	174	35000	7100	B9.00/20	DB9.00/20	Her YXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U5	No	Own	2F	R 7.8	56.8	7 3/4 x 3 1/4	P	3428	4			
4	(T) TRDA	12	4350	150	174	39000	7226	B9.75/20	DB9.75/20	Her YXC3	6-4 1/2 x 4 1/2	Fu 5-A-53	U5	No	Own	2F	R 7.8	56.8	7 3/4 x 3 1/4	P	478	4			
5	(T) TRDB	15	4595	150	174	45000	7326	B9.75/20	DB9.75/20	Her RXC	6-4 1/2 x 4 1/2	Fu 5-A-53	U5	No	Own	2F	R 7.8	56.8	7 3/4 x 3 1/4	P	529	4			
6	FB40	1 1/2-2	1135	142	162	11000	3480	B6.50/20	DB6.50/20	Con 25A	6-3 1/2 x 4 1/2	WG T9	U4	No	Own	2F	R 7.8	56.8	7 3/4 x 3 1/4	P	614	5			
7	FB50	2 1/2-3	1240	142	162	11500	3550	B7.00/20	DB7.00/20	Con 25A	6-3 1/2 x 4 1/2	WG T9	U4	No	Own	2F	R 7.8	56.8	7 3/4 x 3 1/4	P	721	5			
8	FB60	2 1/2-3	1590	142	162	14000	4150	B7.00/20	DB7.00/20	Wau TL	6-3 1/2 x 4 1/2	WG T9	U4	No	Own	2F	R 7.8	56.8	7 3/4 x 3 1/4	P	825	5			
9	FB70	2 1/2-3	2635	174	204	17000	5755	B7.50/20	DB7.50/20	Wau ML	6-4 1/2 x 4 1/2	Own UC7	U5	No	Own	2F	R 7.4	52.7	10 1/2 x 3 1/2	P	935	4			
10	FD80	3-4	3065	174	204	21000	6680	B8.25/20	DB8.25/20	Wau 6ML	6-4 1/2 x 4 1/2	Own UC7	U5	No	Own	2F	R 7.8	55.3	10 1/2 x 3 1/2	P	1035	4			
11	FB90 Spec	3 1/4-4	3010	174	204	21000	6680	B8.25/20	DB8.25/20	Wau ML	6-4 1/2 x 4 1/2	Own UC7	U5	No	Own	2F	R 7.8	55.3	10 1/2 x 3 1/2	P	1135	4			
12	FC90	4	4105	174	204	22000	7480	B9.00/20	DB9.00/20	Wau 6MK	6-4 1/2 x 4 1/2	Own UC7	U5	No	Own	2F	R 8.06	61.7	10 1/2 x 3 1/2	P	1231	4			
13	FD90	4	3315	174	204	22000	7480	B9.00/20	DB9.00/20	Wau MK	6-4 1/2 x 4 1/2	Own UC7	U5	No	Own	2F	R 8.0	57.0	10 1/2 x 3 1/2	P	1331	4			
14	FD97S	4 1/2-5	4355	192	222	26000	8200	P36x8	DP36x8	Wau 6SRL	6-4 1/2 x 4 1/2	Own UC2	U4	No	Own	w/2F	R 7.5	51.6	12 1/2 x 3 1/2	P	1442	4			
15	FC100	5-5 1/2	4185	192	222	26000	7750	P36x8	DP36x8	Wau 6MK	6-4 1/2 x 4 1/2	Own UC2	U4	No	Own	CD	R 9.3	61.2	12 1/2 x 3 1/2	P	1531	4			
16	FD115	5-6	4690	192	222	32000	8750	P40x8	DP40x8	Wau 6SRL	6-4 1/2 x 4 1/2	Own UC2	U4	No	Own	w/2F	R 8.2	54.6	12 1/2 x 3 1/2	P	1642	4			
17	FC107	5-6	4700	192	222	27000	8200	P36x8	DP36x8	Wau 6SRL	6-4 1/2 x 4 1/2	Own UC2	U4	No	Own	CD	R 8.2	54.6	12 1/2 x 3 1/2	P	1742	4			
18	FD140	7-8	6285	192	222	35000	10050	P40x8	DP42x8	Wau 6-125	6-4 1/2 x 4 1/2	Own UC2	U4	No	Own	w/2F	R 10.0	66.6	15 1/2 x 3 1/2	P	1842	4			
19	FC135	7-8	4800	192	222	29000	8900	P40x8	DP40x8	Wau SRL	6-4 1/2 x 4 1/2	Own UC2	U4	No	Own	CD	R 9.3	62.2	15 1/2 x 3 1/2	P	1942	4			
20	FC140	8-8 1/2	5245	200	230	36000	9350	P40x8	DP40x8	Wau 6-125	6-4 1/2 x 4 1/2	Own UC2	U4	No	Own	CD	R 8.3	55.2	15 1/2 x 3 1/2	P	2049	4			
21	FC145	8-8 1/2	6180	200	230	37000	10100	P40x8	DP40x8	Wau AB	6-4 1/2 x 4 1/2	Own UC8	U4	No	Own	CD	R 9.4	58.9	15 1/2 x 3 1/2	P	2149	4			
22	FW170	9A-10A	6980	200	230	35000	10550	P40x8	DP44x10	Wau AB	6-4 1/2 x 4 1/2	Own UC8	U4	No	Own	w/2F	R 10.0	62.7	15 1/2 x 3 1/2	P	2249	4			
23	FC170	9A-10A	6900	200	230	40000	10550	P40x8	DP42x9	Wau RB	6-5 1/2 x 4 1/2	Own UC8	U4	No	Own	CD	R 9.4	58.9	15 1/2 x 3 1/2	P	2349	4			
24	FD195	12-12 1/2	8925	200	230	39000	10750	B10.50/20	DB10.50/20	Cum H Die	6-4 1/2 x 4 1/2	BL 734	U4	Op	Wls 1910W	2F	R 8.88	55.5	15 1/2 x 3 1/2	P	2472	1			
25	Stewart	41X	730	124	124	10000	2875	B6.50/18	B6.50/18	Lyc	6-3 1/2 x 4 1/2	WG	U4	No	Cla	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	2524	4			
26	41X	1 1/2	765	134	145	10000	2925	B6.50/18	B6.50/18	Lyc	6-3 1/2 x 4 1/2	WG	U4	No	Cla	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	2624	4			
27	40H	1 1/2	825	134	145	10000	3250	B6.50/20	B6.50/20	Lyc	6-3 1/2 x 4 1/2	WG	U4	No	Cla	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	2724	4			
28	42X	1 1/2	795	134	176	10000	3250	B6.50/20	B6.50/20	Lyc	6-3 1/2 x 4 1/2	WG	U4	No	Cla	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	2824	4			
29	42X	1 1/2	895	145	176	11000	3525	B6.50/20	B6.50/20	Lyc	6-3 1/2 x 4 1/2	WG	U4	No	Cla	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	2924	4			
30	43X	2	1125	145	176	12000	4005	B6.50/20	DB6.50/20	Lyc	6-3 1/2 x 4 1/2	WG	U4	No	Cla	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	3024	4			
31	47H	2	895	134	190	12000	4005	B6.50/20	DB6.50/20	Lyc	6-3 1/2 x 4 1/2	WG	U4	No	Cla	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	3124	4			
32	45X	2 1/2	1425	145	190	14000	4350	B7.00/20	DB7.00/20	Lyc	6-3 1/2 x 4 1/2	WG	U4	No	Cla	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	3224	4			
33	29X8	2 1/2-3	1985	145	220	16000	5190	B7.00/20	DB7.00/20	Lyc	6-3 1/2 x 4 1/2	BL	U5	No	Cla	2F	R 7.16	40.7	9 1/2 x 2 1/2	T	3324	4			
34	29X8	2 1/2-3	2190	165	220	18000	5460	B7.00/20	DB7.00/20	Lyc	6-3 1/2 x 4 1/2	BL	U5	No	Cla	2F	R 7.16	40.7	9 1/2 x 2 1/2	T	3424	4			
35	29X8	2 1/2-3	2390	170	226	18000	6025	B7.50/20	DB7.50/20	Lyc	6-3 1/2 x 4 1/2	Fu	U5	No	Cla	2F	R 7.16	40.7	9 1/2 x 2 1/2	T	3524	4			
36	18X	3 1/4	2790	165	220	20000	6600	B7.50/20	DB7.50/20	Lyc	6-3 1/2 x 4 1/2	Fu	U5	No	Tim	WF	R 7.25	47.7	9 1/2 x 2 1/2	T	3634	4			
37	48-8	3 1/4	3090	170	241	20000	6750	B8.25/20	DB8.25/20	Lyc	6-3 1/2 x 4 1/2	BL	U5	No	Cla	2F	R 7.16	40.7	9 1/2 x 2 1/2	T	3740	4			
38	19X	3 1/4	3790	165	235	20000	7110	B9.00/20	DB9.00/20	Lyc	6-3 1/2 x 4 1/2	Fu	U5	No	Tim	WF	R 7.25	48.8	9 1/2 x 2 1/2	T	3854	4			
39	38-6	3 1/4-5	4090	170	241	25000	7600	B9.00/20	DB9.00/20	Wau	6-4 1/2 x 4 1/2	BL	U5	A	3 Tim	WF	R 7.25	48.8	9 1/2 x 2 1/2	T	3962	4			
40	38-8	3 1/4-5	4090	170	241	25000	7600	B9.00/20	DB9.00/20	Wau	6-4 1/2 x 4 1/2	BL	U5	A	3 Tim	WF	R 7.25	48.8	9 1/2 x 2 1/2	T	4070	4			
41	38-8	3 1/4-5	5490	165	235	30000	9340	B9.75/20	DB9.75/20	Wau	6-4 1/2 x 4 1/2	BL	U5	A	3 Tim	WF	R 8.2	148.9	9 1/2 x 2 1/2	T	4156	4			
42	27X8	7-8	6290	165	235	33000	10300	B10.50/24	DB10.50/24	Wau	6-4 1/2 x 4 1/2	BL	U5	A	3 Tim	WF	R 10.1	148.9	9 1/2 x 2 1/2	T	4256	4			
43	Stud T230	(241 265)	625	130	165	9000	3185	B6.00/20	P32x6	Own	6-3 1/2 x 4 1/2	WG T9	U4	No	Cla B373	2F	R 7.4	45.1	8 1/2 x 2 1/2	T	4330	4			
44	T430	(441-465)	785	130	165	10500	3545	B6.00/20	DB6.50/20	Own															

Line Number	ENGINE DETAILS										Oiling System Type	Governor Make	Carburetors Make	FUEL SYST.	ELEC-TRICAL	Generator, Starter Make	Clutch Type and Make	Radiator Make	Universal Make	Make and Model	FRONT AXLE	BRAKES		BODY MOUNT-ING DATA		SPRINGS		Auxiliary Type				
	Piston Displacement	Compression Ratio	Torque lb. ft.	N.A.C.C. Rated H.P.	Valve Arrangement	Camshaft Drive	MAIN BEARINGS		Steering Gear Make	Service												Lining Area	Drum Material	Hand Location, Type	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame		Front	Rear		
							Piston Material	Number and Diameter																							Length	Make Location, Type	Cab to Rear of Frame	Cab to Rear Axle	Width of Frame	Front	Rear
1428	4.4	280	45.9	93-2200	L	G	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L41HV	893	G	TD	106	Opt	31 1/2	40x2 1/4	50x3			
529	4.4	355	45.9	115-2200	L	G	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L41HV	893	H	TD	118	Opt	31 1/2	40x2 1/4	50x3 1/2			
478	4.4	315	51.2	103-2200	L	G	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L41HV	893	H	TD	92 1/2	Opt	31 1/2	40x2 1/4	50x3			
529	4.4	355	51.2	115-2200	L	G	A	7-3	15	PC	Mo	Str	M	AL	AL	D.Fu	Yo	Spi	Shu	Ros	L41HV	893	H	TD	92 1/2	Opt	31 1/2	40x2 1/4	50x3			
214	5.0	137	28.0	72-3300	L	G	A	4-2 3/4	6 3/4	CC	No	Zen	M	DR	DR	P.Lo	Fe	Spi	Tim	30000H	Ros	L41H	269	P	TX	96	57	34	38x2 1/4	50x2 1/4		
214	5.0	137	28.0	72-3300	L	G	A	4-2 3/4	6 3/4	CC	No	Zen	M	DR	DR	P.Lo	Fe	Spi	Tim	30000H	Ros	L41H	269	P	TX	96	57	34	38x2 1/4	50x2 1/4		
255	5.0	175	28.0	68-2800	L	G	A	7-3	12 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	31000H	Ros	L41HV	330	A	CX	144	91	34	42x2 1/4	54x3		
358	4.4	230	38.4	80-2500	L	G	C	7-2 3/4	12 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	33000H	Ha	L41HV	396	A	CX	144	91	34	42x2 1/4	54x3		
11	358	4.4	230	38.4	80-2500	L	G	C	7-2 3/4	12 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	33000H	Ha	L41HV	392	A	CX	144	91	34	42x2 1/4	54x3	
11	358	4.4	230	38.4	80-2500	L	G	C	7-2 3/4	12 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	33000H	Ha	O2IMV	466	A	JX	144	91	34	42x2 1/4	54x3	
12	381	4.4	240	40.8	85-2500	L	G	C	7-2 3/4	12 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	33000H	Ha	L41HV	397	A	CX	144	91	34	42x2 1/4	54x3	
13	381	4.4	240	40.8	85-2500	L	G	C	7-2 3/4	12 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	33000H	Ha	L41HV	397	A	CX	144	91	34	42x2 1/4	54x3	
13	381	4.4	240	40.8	85-2500	L	G	C	7-2 3/4	12 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	35000H	Ros	O2IMV	576	A	JX	172	108	34	48x3	54x3	
15	381	4.4	240	40.8	85-2500	L	G	C	7-3	13 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	35000H	Ros	L41HV	664	A	CX	172	108	34	48x3	54x3	
16	462	4.5	300	45.9	102-2400	L	G	C	7-3	13 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	35000N	Ros	O2IMV	576	A	JX	172	108	34	48x3	54x3	
17	462	4.5	300	45.9	102-2400	L	G	C	7-3	13 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	35000N	Ros	O2IMV	576	A	JX	172	108	34	48x3	54x3	
18	462	4.5	300	45.9	102-2400	L	G	C	7-3	13 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	26450TN	Ros	W941A	690	A	CX	172	108	34	48x3	60x4	
19	462	4.5	300	45.9	102-2400	L	G	C	7-3	13 1/2	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	26450N	Ros	O2IMV	500	A	JX	172	108	34	48x3	54x3	
20	489	4.5	330	48.9	125-2400	L	G	C	4-3 1/4	11 3/4	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	26450N	Ros	O2IMV	666	A	CX	168	107	34	48x3	54x3	
22	489	4.5	330	48.9	125-2400	L	G	C	4-3 1/4	11 3/4	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	26450N	Ros	O2IMV	666	A	CX	168	107	34	48x3	54x3	
22	489	4.5	330	48.9	125-2400	L	G	C	4-3 1/4	11 3/4	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	27050TW	Ros	W941A	690	A	CX	163	107	34	48x3	54x3	
23	677	4.4	440	60.0	125-2000	L	G	A	4-3 1/4	11 3/4	CC	Ha	Zen	M	DR	DR	D.Ow	Mo	Spi	Tim	27450N	Ros	O2IMV	666	A	JX	168	107	34	48x3	54x3	
24	672	4.4	440	60.0	125-2000	L	G	A	4-3 1/4	11 3/4	CC	En	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	W941A	718	A	CX	163	107	34	48x3	60x4		
25	224	4.8	142	25.3	62-2800	L	G	C	4-2 3/4	8 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	180	A	4X	81	41	32	38 1/2 x 2 1/4	50x2 1/4			
26	224	4.8	142	25.3	62-2800	L	G	C	4-2 3/4	8 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	180	A	4X	92	51	32	38 1/2 x 2 1/4	50x2 1/4			
27	224	4.8	142	25.3	62-2800	L	G	C	4-2 3/4	8 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	180	A	4X	92	51	32	38 1/2 x 2 1/4	50x2 1/4			
28	224	4.8	142	25.3	62-2800	L	G	C	4-2 3/4	8 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	226	A	4X	92	51	32	38 1/2 x 2 1/4	50x2 1/4			
29	224	4.8	142	25.3	62-2800	L	G	C	4-2 3/4	8 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	317	A	4X	92	51	32	38 1/2 x 2 1/4	50x2 1/4			
30	242	5.5	162	27.3	65-2800	L	G	C	4-2 3/4	8 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	317	A	4X	103 1/2	62	32	38 1/2 x 2 1/4	50x2 1/4			
31	242	5.5	162	27.3	65-2800	L	G	C	4-2 3/4	8 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	L41H	266	A	TX	92	51	32	38 1/2 x 2 1/4	50x2 1/4			
32	242	5.5	162	27.3	65-2800	L	G	C	4-2 3/4	8 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	349	A	4X	104 1/2	58	32	38 1/2 x 2 1/4	50x3			
33	299	5.0	193	33.8	85-2750	L	G	C	4-2 3/4	9 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	524	A	TX	104 1/2	58	32	38 1/2 x 2 1/4	50x3			
34	299	5.0	193	33.8	85-2750	L	G	C	4-2 3/4	9 3/4	CC	No	Str	P	DR	P.BB	Fe	Spi	Spi	Ros	B41M	524	A	TX	104 1/2	58	32	38 1/2 x 2 1/4	50x3			
35	322	4.6	224	36.2	90-2750	L	G	C	4-2 3/4	10	FP	Mo	Str	P	DR	P.Fu	Fe	Spi	Tim	Ros	B41M	594	A	TX	129 1/2	79	32	40x3	56x3			
36	354	5.2	225	36.9	90-2750	L	G	C	4-2 3/4	10	FP	Mo	Str	P	DR	P.Fu	Fe	Spi	Cla	Ros	B41M	670	A	TX	128 1/2	79	32	40x3	56x3			
37	420	5.2	230	44.4	130-2800	L	G	C	5-2 3/4	12 1/2	FP	No	Str	P	DR	P.BL	Fe	Spi	Cla	Ros	B41MV	594	A	TX	128 1/2	75	32	40x3	56x3			
38	354	4.6	224	36.9	90-2750	L	G	C	4-2 3/4	10	FP	Mo	Str	P	DR	P.Fu	Fe	Spi	Eat	Ros	B41M	670	A	TX	128 1/2	76	32	40x3	56x3			
39	462	4.5	300	45.9	100-3000	L	G	C	7-3	12 1/2	FP	Mo	Str	P	DR	P.BL	Fe	Spi	Eat	Ros	B41MV	670	A	TX	128 1/2	75	32	40x3	56x3			
40	420	5.2	230	44.4	130-2800	L	G	C	5-2 3/4	12 1/2	FP	No	Str	P	DR	P.BL	Fe	Spi	Eat	Ros	B41MV	670	A	TX	128 1/2	75	32	40x3	56x3			
41	516	4.5	330	51.2	110-2000	L	G	C	7-3	12 1/2	FP	Wa	Str	P	DR	P.BL	Mo	Spi	Eat	Ros	B41MV	708	A	TX	128 1/2	73	34	40x3	56x4			
42	516	4.5	330	51.2	110-2000	L	G	C	7-3	12 1/2	FP	Wa	Str	P	DR	P.BL	Mo	Spi	Eat	Ros	W941A	902	A	TX	128 1/2	73	34	40x3	56x4			
43	230	4.6	154	25.4	75-3200	L	G	C	4-2 3/4	8 3/4	CC	No	Str	M	DR	P.Lo	Me	MM	Cla	F212	Ros	B41M	231	A	41	85	48	33 1/2 x 2 1/4	45x2 1/4			
44	230	4.6	154	25.4	75-3200	L	G	C	4-2 3/4	8 3/4	CC	Ha	Str	M	DR	P.Lo	Me	MM	Cla	F212	Ros	B41MV	231	A	41	85	48	33 1/2 x 2 1/4	45x2 1/4			
45	230	4.6	154	25.4	75-3200	L	G	C	4-2 3/4	8 3/4	CC	Ha	Str	M	DR	P.Lo	Me	MM	Cla	F212	Ros	B41MV	284	D	41	97	60	34	39x2 1/4	56x3		
46	230	4.6	154	25.4	75-3200	L	G	C	4-2 3/4	8 3/4	CC	Ha	Str	M	DR	P.Lo	Me	MM	Cla	F212	Ros	B41MV	420	A	41	97	60	34	39x2 1/4	56x3		
47	358	5.1	254	38.4	110-2800	F	G	A	7-2 3/4	11 1/2	FP	No	Sto	Bat	None	No	No	Cla	F212	Ros	B41M	344	A	41	66	38	36	38x2 1/4	50x2 1/4		
48	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No	Sto	Bat	.....	None	No	No	Cla	F212	Ros	B41M	344	A	41	100	64	32	38x2 1/4	50x2 1/4	
49	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No	Sto	Bat	.....	None	No	No	Cla	F212	Ros	B41M	344	A	41	114	75	32	38x2 1/4	50x2 1/4	
50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No	Sto	Bat	.....	None	No	No	Cla	F212	Ros	B41M	344	A	41	120	74	32	38x2 1/4	50x2 1/4	
51	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No	Sto	Bat	.....	None	No	No	Cla	F212	Ros	B41M	571	A	41	138	90	32	44x2 1/4	52x3	
52	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	No	Sto	Bat	.....	None	No	No	Tim	Ros	B41M	571	A	41	138	90	32	44x2 1/4	52x3		

†—Denotes new model or change in specifications.

Line Number	MAKE AND MODEL	Wheels Driven—6-Wheelers	GENERAL See Keynoter					TIRE SIZE		MAJOR UNITS						FRAME					
			Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. Stripped	Front	Rear	ENGINE		TRANSMISSION		REAR AXLE		Side Rail Dimensions	Type			
											Make and Model	No. of Cylinders Bore and Stroke	Make and Model	Location and Forward Speeds Aux. Location and Speeds	Make and Model	Gear and Type			Drive and Torque	GEAR RATIOS	
																				In High	In Low
1	Mack (Concluded) AK	4R	8-15	9000	217	257	.....	15900	B9 75/22	DB9.75/22	Ow BQ	6-4 1/2 x 5 1/2	Ow AC	A 4	No	Ow AK6	2F	A 7.46	47.8	8 1/2 x 3 1/2	C
2	AP	4R	8-15	10500	217	257	.....	14900	P40x8	DP40x8	Ow AP	6-5 1/2	Ow AC	J 4	No	Ow AC	CD	R 9.26	59.4	8 1/2 x 3 1/2	C
3	Mar-Her TH310A-6	4R	8-15	11000	217	257	.....	16400	B9 75/22	DB9.75/22	Ow AP	6-5 1/2	Ow AC	A 4	No	Ow AK6	2F	A 7.46	47.8	8 1/2 x 3 1/2	C
4	(13) TH315	6	10	10000	193	229	.....	14070	B9 75/22	DB9.75/22	Her RXC	6-4 1/2 x 5 1/2	Fu 5-A-530	U 5 A 2	Ow-Wls	2F	R 9.11	163.	8 1/2 x 3 1/2	C	
5	(13) TH320	6	12-13	12500	198	234	.....	15420	B9 75/22	DB9.75/22	Her HXB	6-5 1/2	BL 724	U 4 A 3	Ow-Wls	2F	R 9.11	163.	8 1/2 x 3 1/2	C	
6	(13) TH320	6	15-18	14500	225	255	.....	18450	B10 50/24	DB10.50/24	Her HXC	6-5 1/2 x 6	BL 724	U 4 A 3	Ow-Wls	2F	R 9.11	188.	10 1/2 x 3 1/2	P	
7	More-ED25M	4R	7	4067	184	Op	25000	8900	B8 25/20	DB8.25/20	Her WXC3	6-4 1/2 x 4	BL 334	U 4	No	Tim 65000	W	R 7.50	46.0	9 1/2 x 3 1/2	T
8	land HD34M	4R	10	5869	220	Op	34000	11000	B9 00/20	DB9.00/20	Her RXB	6-4 1/2 x 5 1/2	BL 524	U 4	No	Tim 65720	W	R 8.50	62.0	9 1/2 x 3 1/2	T
9	TD34	4R	10	7607	221	Op	34000	13250	B9 75/20	DB9.75/20	Wau RR	6-5 1/2	BL 724	U 4	No	Tim 68720W	W	R 8.75	62.0	11 1/2 x 3 1/2	T
10	Sterling FBT152	2R	8 1/2	4580	174	Op	3000	900	B9 00/20	DB9.00/20	Wau 6-110	6-4 1/2 x 4	Ow UC7	U 5	No	Ow	BF	R 7.8	55.5	10 1/2 x 3 1/2	T
11	FDT152	2R	8 1/2	4705	174	Op	30400	9700	B9 00/20	DB9.00/20	Wau 6-110	6-4 1/2 x 4	Ow UC7	U 5	No	Ow	BF	R 7.8	55.5	10 1/2 x 3 1/2	T
12	FDS180	4R	8-10	8605	158	Op	36000	12850	P40x8	DP40x8	Wau AB	6-4 1/2 x 5 1/2	Ow UC8	U 4 A 3	Tim 310	2F	R 9.1	113.	15 1/2 x 3 1/2	L	
13	FDS200	4R	10-12	9130	159	Op	40000	13550	P40x8	DP40x8	Wau RB	6-5 1/2	Ow UC8	U 4 A 3	Tim 410	2F	R 9.1	113.	15 1/2 x 3 1/2	L	
14	FCS210	4R	15-18	10175	Op	Op	42000	14750	P40x8	DP40x8	Wau RB	6-5 1/2	Ow UC8	U 4 A 3	Ow	CD	R 9.5	59.6	15 1/2 x 3 1/2	L	
15	FDT200	2R	12-12 1/2	7670	178	Op	40000	12050	P40x8	DP40x8	Wau 6-125	6-4 1/2 x 5 1/2	Ow UC	U 4 Op	Ow	2F	R 8.85	58.8	12 1/2 x 3 1/2	L	
16	FDT250	2R	16-16 1/2	8855	186	216	5000	13550	P42x9	DP42x9	Wau RB	6-5 1/2	Ow UC8	U 4 Op	Ow	2F	R 8.85	55.5	15 1/2 x 3 1/2	L	
17	FCT180	2R	10-10 1/2	7265	178	Op	36000	11200	P36x8	DP36x8	Wau SRL	6-4 1/2 x 5 1/2	Ow UC	U 4 Op	Ow	CD	R 8.2	54.5	12 1/2 x 3 1/2	L	
18	FCT200	2R	12-12 1/2	7685	178	Op	40000	11800	P40x8	DP40x8	Wau 6-125	6-4 1/2 x 5 1/2	Ow UC	U 4 Op	Ow	CD	R 8.3	61.8	12 1/2 x 3 1/2	L	
19	Ward 440TC	15	15	11000	240	246	44000	14000	B9 75/22	DB9.75/22	Cu. Die. HA	6-4 1/2 x 6	BL 735	A 5	No	Tim SBT420w	WF	R 6.42	40.4	14 1/2 x 3 1/2	T
20	LaFr. 440TR	15	15	9350	240	246	44000	13700	B9 75/22	DB9.75/22	Wau RB	6-5 1/2	BL 735	A 5	No	Tim SBT420w	WF	R 6.42	40.4	14 1/2 x 3 1/2	T
21	340TM	7 1/2	7 1/2	4700	204	230	28000	9200	B8 25/20	DB8.25/20	Wau MK	6-4 1/2 x 4	BL 5352	U 5	No	Tim SBT251H	SF	T Opt	Opt	12 1/2 x 3 1/2	T
22	400T5	12	12	7100	203	241	40000	13000	B9 75/20	DB9.75/20	Wau 6-125	6-4 1/2 x 5 1/2	BL 5352	U 5	No	Tim SW320w	WF	R 8.5	65.5	14 1/2 x 3 1/2	T
23	Wht. 630SW251	4R	5-6	(12a) 193	205	.....	.....	10000	B8 25/20	DB8.25/20	Ow 7A	6-4 1/2 x 5 1/2	Ow 4B	U 4	No	Tim SW251	WF	R 6.75	44.2	8 1/2 x 3 1/2	C
24	642SW320	4R	7-9	(12a) 198	210	.....	.....	12670	B9 00/20	DB9.00/20	Ow 5A	6-4 1/2 x 5 1/2	Ow 10B	U 5	No	TimSW310W	WF	R 8.5	55.6	8 1/2 x 3 1/2	C
25	643SW420	4R	9-11	(12a) 198	215	.....	.....	14400	P40x8	DP40x8	Ow 5A	6-4 1/2 x 5 1/2	Ow 10B	U 5	No	TimSW410W	WF	R 10.2	69.1	18 1/2 x 3 1/2	C

← Denotes new model or change in specifications.

Halt the Hijackers

(Continued from page 24)

truck driver heard a shrill police whistle and looked in his mirror to find a carful of New Jersey "State police" after him. When the "cops" drew up he obeyed their command to "pull over to the side." Not until they tied him up and loaded him in their car did he realize that they were hijackers disguised in police uniforms.

THERE are tricks in spotting the prize trucks. The hijackers have their spies, of course. These are the dames mentioned before. And who

knows how many of the boys who sling hash in the lunchwagons where they stop are paid for tips. But a novel trick was revealed when one hijacker was captured. This gang had watched the operator's terminal from a distant point by means of a high-powered telescope.

The hijackers are well prepared in that they consist of a crew that operates the hijacked truck and a crew to operate their own machine and take care of prisoners. The crew that operates the truck usually contains a man experienced in handling big trucks and tractor-trailer combinations. He is the truck driver who has fallen from grace.

When the truck has been taken over by the hijackers it is moved to their "drop," that is the cargo is stored or transferred. Authorities claim that the hijackers usually arrange for the sale of the stolen cargo before they steal it. While the "drop" is being taken care of the captive truck driver is either taken for a confusing ride and turned loose on a deserted road, far from the scene of the hijacking, or tied to a tree in a lonely woods.

So far the hijackers have been conscientious; they have not stained their hands with blood. Drivers have been sluggish and beaten but none have been murdered.

New Truck Registrations by Makes by Months

	Autocar	Brookway	Chevrolet	Diamond T	Dodge	Federal	Ford	G. M. C.	International	Mack	Reo	Sterling	Stewart	Studebaker	White Indiana	Miscellaneous	Total
January.....1934	79	91	8,917	406	2,581	120	6,650	555	2,284	161	289	9	61	98	284	318	22,903
January.....1933	47	39	4,884	205	360	52	3,734	344	983	79	137	12	29	134	287	383	11,709
February.....1934	58	81	10,718	420	2,723	121	6,459	453	2,150	144	339	14	60	109	357	270	24,476
February.....1933	41	42	4,645	174	348	58	2,185	271	1,126	62	151	8	31	152	180	233	9,707
March.....1934	64	117	15,112	501	4,154	170	8,642	717	2,841	145	461	10	67	126	452	315	33,894
March.....1933	45	51	4,749	202	489	54	2,037	318	1,201	55	132	5	32	101	174	289	9,934
April.....1934	88	104	15,050	534	4,367	178	13,167	839	2,729	206	527	4	90	123	558	318	38,882
April.....1933	76	97	7,299	362	870	103	4,556	644	2,021	137	216	12	40	180	201	487	17,301
May.....1934	146	117	14,148	508	4,441	186	14,390	1,031	2,849	212	578	10	103	193	544	375	39,831
May.....1933	106	88	8,649	375	1,332	138	5,665	647	2,463	152	290	7	70	205	218	520	20,925
June.....1934	95	108	12,981	481	3,729	196	12,205	884	2,435	154	504	9	67	133	447	350	34,778
June.....1933	113	66	10,191	363	1,936	99	6,080	583	2,482	149	278	7	65	184	219	439	23,254
6 Months.....1934	530	618	76,926	2,850	21,995	971	61,503	4,479	15,288	1,022	2,698	56	448	782	2,642	1,946	194,754
6 Months.....1933	428	383	40,417	1,681	5,335	504	24,257	2,807	10,276	634	1,204	51	267	956	1,279	2,351	92,830
6 Months.....% Gain	24	61	90	70	313	93	154	59	49	61	125	10	68	-18	106	-17	110

-- = decrease.

What Price Reciprocity?

(CONTINUED FROM PAGE 11)

users of the highways pay 45 per cent of all fees collected from all highway users. Individual trucks in that State pay \$3,300 per year in license, gas tax and motor transport fees.

It is freely predicted that the next session of the Washington legislature will make drastic changes in the method of collecting revenue from commercial users of its highways and a drive to have the amounts vastly increased is a certainty.

THERE is no reason to believe at this time that Washington will seriously study the tax and license methods in other States. Its plan at the present varies greatly from the plan used in Oregon and Idaho. Idaho's tax and license plan is an excellent example of hit-and-miss legislation. Acts providing the taxes are confusing and contradictory, but if any guessing is to be done as to what the laws mean the State sees to it that the guessing is done in its favor and not in favor of the struggling truckers trying to bring Idaho's inland products to the world markets.

REPRESENTATIVES of truck owners, equipment manufacturers and progressive Western truck dealers who attended the Salt Lake conference as observers, organized the Western Conference of Highway Users. This body naturally had no official standing at the Salt Lake meeting. Nevertheless, it made an impression and changed the tenor of those resolutions which Salt Lake delegates did adopt, particularly those resolutions which had any meaning at all.

This conference did not hesitate to tackle the meaningless mess which the legislators were making of the term "reciprocity." The resolutions of the Industry conference were not directly reflected in the resolutions of the official conference, but that they did receive consideration was evident from some of the last-minute efforts made by puzzled legislators to have the industry sit in as the operating department of the highway transportation system.

THE industry sitting in its own meetings discussed first of all what "reciprocity" between States should imply. It set out as its conception that reciprocity meant an arrangement between neighboring States whereby the users of the highway in one State might cross a State line and use the highways of other States on terms that were fair to the truck owner and to public interests in both States.

EXISTING complications which the Salt Lake conference in no way touched upon make many State lines an effective stone wall against any and all inter-State movements. The industry conference held that the State line should not be a stone wall but that comparable terms of inter-communication between States could and should be developed.

At this point the industry conference ran squarely into the maze which puzzled the official delegates to the Western conference—how could "reciprocity" between States be established when there was no common ground for trading the use of the highways between States?

AN illustration of this situation is Oregon which today has a registration fee which for the average truck amounts to \$.90 or \$1.00 per hundred pounds of unloaded weight. Truck and trailer under this plan call for an original license of \$200 to \$250.

Like all States, Oregon has a gas tax of 5 cents. This is in itself a "meter" tax. The more a truck runs over Oregon roads the more gas it buys and the more nickels the State gets.

For commercial usage it has a metered tax. A truck pays either 6 per cent of gross revenue if operating for hire, or a mill per ton mile of capacity, empty or loaded, if operating for hire, or three-quarters of a mill per ton mile of capacity or a ton-month tax if a private carrier.

A truck wanting to operate into Oregon, occasionally gets a permit from the State utility commissioner and uses the Oregon highways on the same terms as a resident truck. The plan is eminently fair to trucks within the State, except for the high fees, and is fair to trucks from other States who want to use Oregon roads.

BUT, if an Oregon truck wants to take a load of furniture into Idaho the story is different, Idaho has an original plate license and any truck operating into Idaho must have that. It has the gas tax. Then, for commercial usage, it applies a small gross revenue tax and a system of tilted capacity taxes which would force an Oregon truck making but one trip into Idaho to pay \$300 to \$400 for that one trip, the same as a truck that is operating daily over the Idaho roads.

The condition is clearly a bar against inter-State commerce and numerous court decisions in various States have declared this plan to be unconstitutional. Regardless, truck operators

have just lost their case before a three-judge Federal Court in Idaho. Of course, the court was wrong in the opinion of the truck operators but nevertheless they have to pay and the confusion between the two States continues.

State officials of both States favor the idea of "reciprocity." They meet in lengthy sessions, take long looks at their divergent plans of dealing with truck operators and give it up as a bad job.

IN the meantime, Oregon watches Idaho trucks come into the State under a plan that "meters" out the use of the highway to the Oregon truck owner and the foreign truck owner on the same terms but wonders a little bit whether it should be so generous to Idaho operators while the Idaho line becomes a real stone wall to the Oregon operator desiring to get in.

Oregon and California are reasonably close together and the Oregon truck owner can get into California on somewhat better terms than the California truck can get into Oregon. The discrepancy exists in the cost of original plate licenses. Oregon has a high plate license and California has a nominal registration license plus a personal property tax for some vehicles.

THERE is no "reciprocity" between Oregon and California, and except for the cost of first plate licenses, none is needed as the two tax plans work out fairly for operators in both States and don't leave the States wondering which has the better deal.

When the official Western bus and truck conference talked "reciprocity" it missed all this entirely. It really had no distinct idea of what was meant by the term.

The unofficial conference of the "operating department" of the highway transportation system adopted by resolution a plan which should appeal to thinking groups of operators everywhere as the logical approach to "reciprocity" between the States and also as an end to the confusion as to how much a truck should pay in any State.

THE plan would make the status of trucks in any State truly comparable, which they now are not. The resolution adopted these points:

1. The registration license, whether required in the home State only, or in all States traversed by the truck, should be nominal only, costing only enough

(TURN TO PAGE 62, PLEASE)

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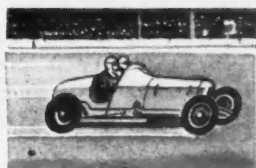
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INDIANAPOLIS—In the qualifying trials for the Indianapolis 500 Mile Race, Kelly Petillo driving a Champion equipped Red Lion Special, set two new track records averaging 119.329 m. p. h.



MEXICO CITY—An Auburn "12" equipped with Champions, won the Mexico City-Puebla-Tehuacan race, establishing a new record over one of the most difficult mountain roads in Mexico.



ITALY—The Grand Prix Parma (Poggio Dibereto), a combination road race and hill climb over hazardous mountain turns, was won by Barbieri in a Champion equipped Alfa-Romeo.



ALTAMONT, N. Y.—Lloyd Vieaux set a new track record of 29 seconds flat here over a half-mile circuit. Vieaux used Champions to win every event he entered, including the feature race.

Shippers Propose Truck Bill

(CONTINUED FROM PAGE 28)

diction over common and contract carriers, it would definitely describe the former as any "person transporting property for more than three persons in any one calendar month," leaving all those outside that definition in the class of contract carriers. While the definition itself might seem to be somewhat restrictive, by reverse English, it nevertheless, defines the contract carrier which was referred to by Kit L. Clardy, the former chairman of the Michigan Public Utilities Commission, as "a figment of the imagination." We are reminded that it was a Michigan court that held an operator who had 150 contracts to be a contract carrier.

THE Eastman bill provided for certificates for common carriers and permits for contract carriers. In the case of an applicant for the former, a "fit, willing and able" clause was attached as a tail to wag the "convenience and necessity" dog. And this would be contingent on the "present or future public convenience and necessity," thus placing upon the commission the burden of prognosticating the future development and the transportation needs of this great country. But the shippers' bill would state specifically "that the public convenience and necessity shall be deemed to require the issuance of a certificate to any person found to be qualified, if there is no adequate motor carrier service to meet all reasonable public demand for motor vehicle transportation over the route or within the territory covered by the application of any such person." Likewise, in the case of contract carriers, no application of a qualified operator would be denied on the ground that the operations proposed would not be consistent with the public interest, "if there is no adequate motor carrier service within the territory covered by the application to meet all reasonable public demands for motor vehicle transportation." Contract carriers would be authorized to operate within certain territories, "as the public interest may require."

THESE provisions, particularly with respect to contract carriers, certainly would remove much of the opposition that was voiced in respect to this type of transportation at the hearings on the Rayburn bill. They would strip highway transportation of the strait-jacket which the other bills proposed to fasten onto both common and contract carriers under the guise of

"public convenience and necessity."

The Highway Transportation Commission would be authorized to prescribe minimum and maximum rates for common carriers, provided that in determining and prescribing rates, "the commission shall be governed by the costs and other conditions pertaining to highway transportation, irrespective of the effect upon, or the costs, rates, charges, and/or practices of, any other agency of transportation." In the case of contract carriers, however, it would have jurisdiction only as to minimum charges, making it unlawful for any contract carrier to "to establish, maintain or enforce any charge for transportation which does not cover the reasonable cost of the service involved." It will be observed that the latter requirement is couched essentially in the language covering all rates and tariffs under the Trucking Code.

HERE we have both theories of rate making: the cost-of-the-service theory applying to contract carriers, and a modified form of the value-of-the-service theory applying to the common carrier. Moreover, there is no attempt to drive contract operations back to the shippers' own trucks by raising the level of contract rates to that of common carrier rates. In the case of the suspension of a rate, upon complaint by or at the instance of any railroad, or other competing agency of transportation, the period of suspension would be limited to 30 days in the aggregate. That provision, also, represents a distinct improvement over the section dealing with the suspension of rates in the Eastman bill.

A SYSTEM of joint boards, provided for in other regulatory bills, would be preserved to some extent. Whereas, in the Eastman bill it was stated that "the Commission shall," in the shippers' bill "the Commission may" refer matters arising in administration of the Act to a joint board for hearing and recommendation.

Under the provisions of the Act of Oct. 22, 1913, relating to the enforcing or setting aside orders of the I.C.C., an operator who had been refused a certificate or permit by the Highway Commission would be authorized to bring suit and to take an appeal from the order of the Commission, provided, however, "that the review by the court shall be limited to questions of law and that findings of fact by the Commission, if supported by substantial

evidence, shall be conclusive unless it shall clearly appear that the findings of the Commission are arbitrary or capricious."

DRAFTING of this bill by the shippers' group represents an expression of need for regulation of highway transportation. But it also represents a compromise between the extreme of regulation as provided in the Eastman bill and the self-regulation provided by the NRA Trucking Code. Shippers want to retain the flexibility of contract carriers while still subjecting them to a degree of regulation necessary if common carriers are to be given the full measure of regulation. Their bill is a compromise because some of their spokesmen were prepared to endorse the Eastman bill, while others, with perhaps a more friendly feeling toward the trucks, were determined to give highway transportation a better "break."

IT is doubtful whether Mr. Eastman will recede from his position and accept the modifications to his Bill advanced by the shippers. On the other hand, the rank and file of the Trucking Industry, operating under the Code, will be prepared to defend their right to home-rule. While the Code is still in process of refinement, many of its benefits are becoming apparent to the members of the Industry adhering to its provisions. They will assert their right to work out their own salvation.

THUS, a three-cornered fight is promised, with respect to regulation of the Trucking Industry, when the next Congress convenes. If Mr. Eastman and the shippers both hold fast to their ground, it is doubtful that a regulatory bill will be enacted. If, on the other hand, these two forces are able to get together on some sort of compromise, it will be questionable whether the Code will be able to withstand the attacks of the combined forces of both camps.

The Industry is just beginning to be inoculated with the serum of regulation. And it is beginning to take. It is doubtful, however, that the Industry is prepared to function satisfactorily under the type of regulation proposed even by the shippers. The Code has its function in the development of highway transportation. To cut it short at this stage of the game might be costly to the future growth of the motor vehicle carrier.

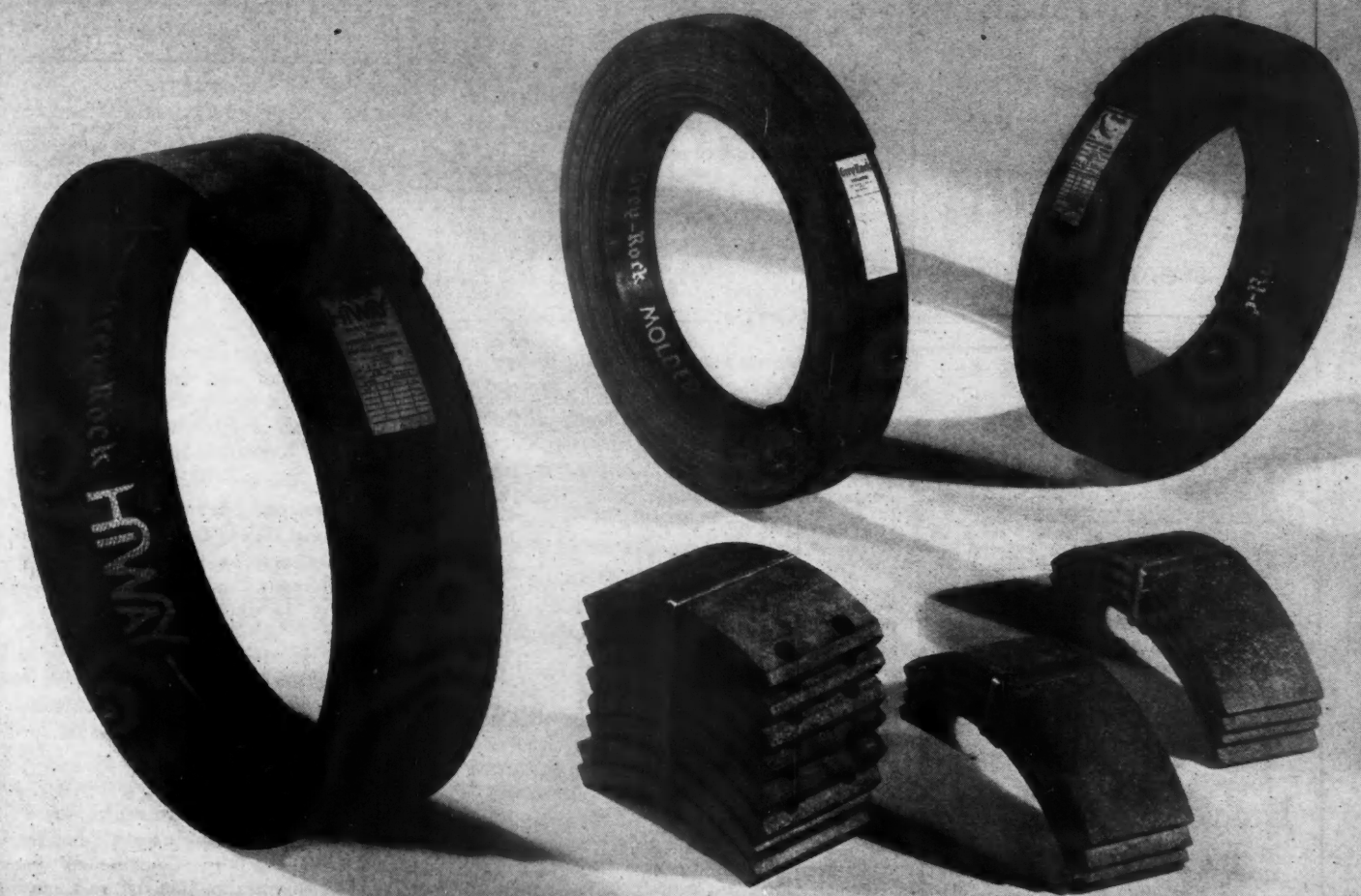
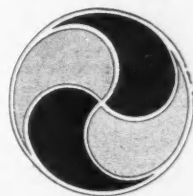
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What Price Reciprocity?

(CONTINUED FROM PAGE 54)

to provide for policing, title and record purposes.

2. All States have a gas tax. This in itself is a metered tax. This could be made greater and thus cover all commercial use of the highways, except for the fact that the gas tax is sales tax that represents already much too great a share of the cost of the product. The conference believes gas taxes are now so high as to defeat their purpose and bring about abuses. Since they are inescapable they are, however, recognized.

3. For commercial usage of highways, where States are determined to differentiate, even though no just ground can be found for such differentiation between trucks using the same highways, a metered tax be adopted in the form of gross revenue.

GENERAL adoption of such a plan could be modified in consideration of each state's need.

This would make reciprocity possible. Now without a basic plan of licensing and taxing, reciprocity between States remains uncertain, profitable only to lawyers.

NEWS

(CONTINUED FROM PAGE 53)

Operator Starts Group Insurance

A \$65,500 group life insurance policy has been acquired by the Huber & Huber Motor Express Co. of Louisville, Ky., for the protection of 57 workers. It grants insurance in amounts ranging from \$1,000 to \$2,500 each, according to rank. Premium payments are shared by the employing company.

Woltering New Vice-President

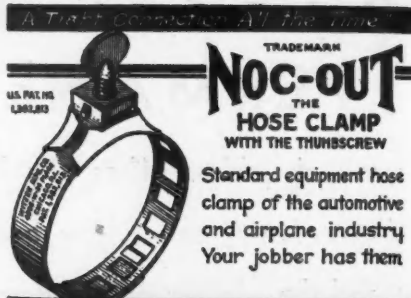
A. J. Woltering has been appointed vice-president and director of sales of the Trailer Co. of America and the Highland Body Mfg. Co.

Spencer Growing

The enlarged forging department of the Spencer Mfg. Co., Spencer, Ohio, now nearing completion, will have a total area of \$37,067 sq. ft.

H. M. Stillman

Harry M. Stillman, sales engineer for Budd Wheel Co., Detroit, died at his home last month after a prolonged illness.



4307 W. 24TH PL. **WITTEK**
CHICAGO, ILL. MFG. CO.

FWD Trucks

are available in sizes ranging in capacities from 2½ to 10 tons.

Write for bulletin.

The Four Wheel Drive Auto Co.

Clintonville, Wis.
Kitchener, Ontario, Canada

Classified Advertisements

WANTED

PREST-O-LITE CYLINDERS. I will buy any quantity—any type. How many have you and how much do you want for them? Alfred E. Corp, 40 Mathewson St., Providence, R. I.

NSPA Announces Contest

National Standard Parts Association announces its third annual contest for Jobbers' and Manufacturers' salesmen in connection with the annual Salesmen's Conference which the NSPA will sponsor again this year at the time of the Automotive Service Industries Show in Cleveland.

Maintenance Show in September

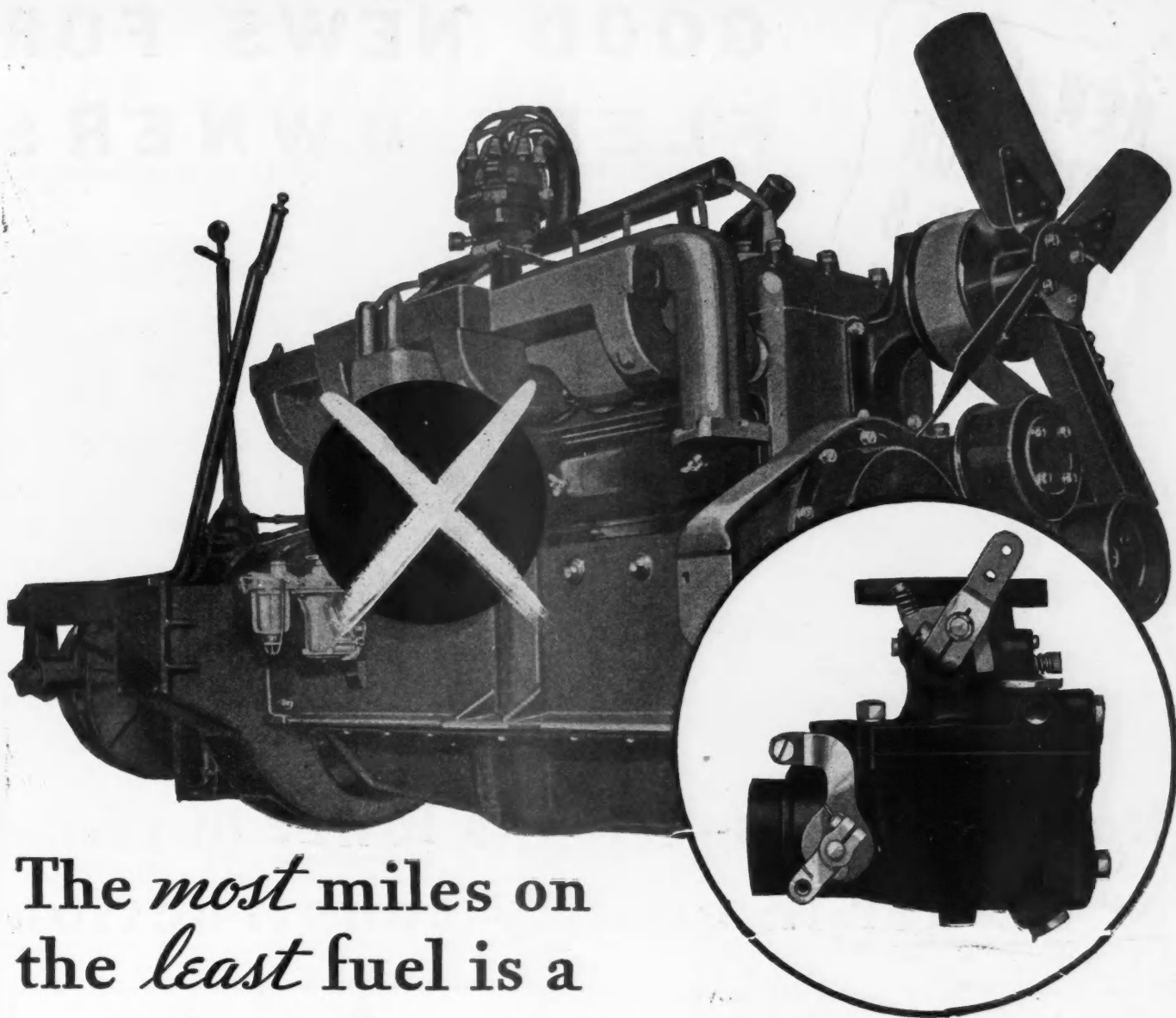
A National Trade Recovery Conference and Exhibit will be held at the Stevens Hotel, Chicago, Sept. 11-14, under the auspices of the International Garage and Maintenance Association, formed by a merger of the International Garage Association and the National Automotive Maintenance Association, and the new organization's official publication, the Garage and Maintenance Counselor.

Brown With Rusco

William Brown, brake expert for the Connecticut Highway Commission, has joined the engineering staff of the Russell Manufacturing Co., Middletown, Conn.

Murphy Chairman of Houghton

Louis E. Murphy was elected chairman of the board at a recent meeting of stockholders of the E. F. Houghton & Co., Philadelphia.



The *most* miles on
the *least* fuel is a

Carburetion Problem

NEW rings, new pistons, new plugs, can do a lot to bring new pep to old engines. They can *help* to give you better gasoline mileage.

But they *can't* do the whole job! . . . not as long as you have to depend on an old, worn carburetor for the all-important work of metering out the fuel, mixing it, and delivering it!

Here is a carburetor, designed and built by Stromberg strictly for heavy-duty truck and bus service. Stromberg Carburetors are standard equipment on more makes of American motor cars than all other carburetors combined. The reason is not price, but demonstrated high efficiency.

Look to your carburetor if you are looking for economy. And look to Stromberg, pioneer of a score of great carburetion advancements, for a replacement unit that will let your engine do its best—in economy, in power, in pickup, in ease of starting.

BENDIX PRODUCTS CORPORATION
(Stromberg Carburetor Division)
401 Bendix Drive South Bend, Indiana

STROMBERG CARBURETORS

A BENDIX PRODUCT

This famous *heavy-duty* STROMBERG
"SF" is the answer!

Stromberg series "SF" Carburetors follow the only principle of carburetion which has proved continuously successful for all heavy-duty work. This unit will perfectly handle all present-day high speed, heavy-duty engines, regardless of size or speed. Built in 5 sizes: 1", 1¼", 1½", 1¾" and 2". Moderate price. Available with or without accelerating pump and Vacuum Economizer, and usable with or without governors.

**NEW LOW
PRICES ON
FORD V-8
TRUCKS!**

GOOD NEWS FOR FLEET OWNERS

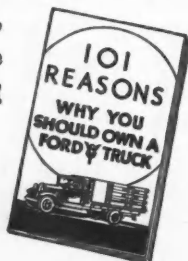


**No truck in America is lower in price
or higher in quality construction**

NOW you can get V-8 performance with **PROVED** four-cylinder economy at the *lowest truck price in America*. The price reduction recently announced on the New Ford V-8 Trucks and Commercial Cars is a **GENUINE** price reduction. Ford did **NOT** raise prices last spring and then lower them again to the old level. In fact, Ford truck prices were reduced last December as well as on June 15th. Go see this New Ford V-8 Truck. Ask your Ford dealer to arrange an "On-the-Job" test for you, with your own loads, over your own routes, with your own driver at the wheel. You'll be convinced!

101 IMPORTANT FEATURES IN ALL

Get This **FREE** Book from Your
Ford Dealer



THE **ONLY** TRUCK AT ANY PRICE THAT GIVES YOU **ALL** THESE FEATURES . . .

Although it sells for the lowest truck price in America, the New Ford V-8 Truck gives you 101 important features every truck owner wants and needs . . . including:

FULL-FLOATING REAR AXLE

Load carried on reinforced axle housing. Axle shafts have nothing to do but turn the wheels—can be removed without jacking up the truck.

LOW-COST ENGINE EXCHANGE PLAN

After thousands of miles of economical service, you can replace your original engine with a block-tested, factory-reconditioned engine for less than an engine overhaul and without tying up your truck.

80-HORSEPOWER V-8 TRUCK ENGINE

Uses no more fuel than a "four." Dual carburetor. Copper-lead connecting-rod bearings of heavy-duty type for heavy-duty service. Full-length water-jackets.

FULL TORQUE-TUBE DRIVE

Torque tube and radius-rods take all driving and braking stresses. Springs are free to perform their intended function of cushioning the load against road shocks.

THE NEW **FORD V-8 TRUCK**

COMMERCIAL CAR JOURNAL

TRUCK
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"The world's finest grease lubricant"

A tested
and
proved economy
for

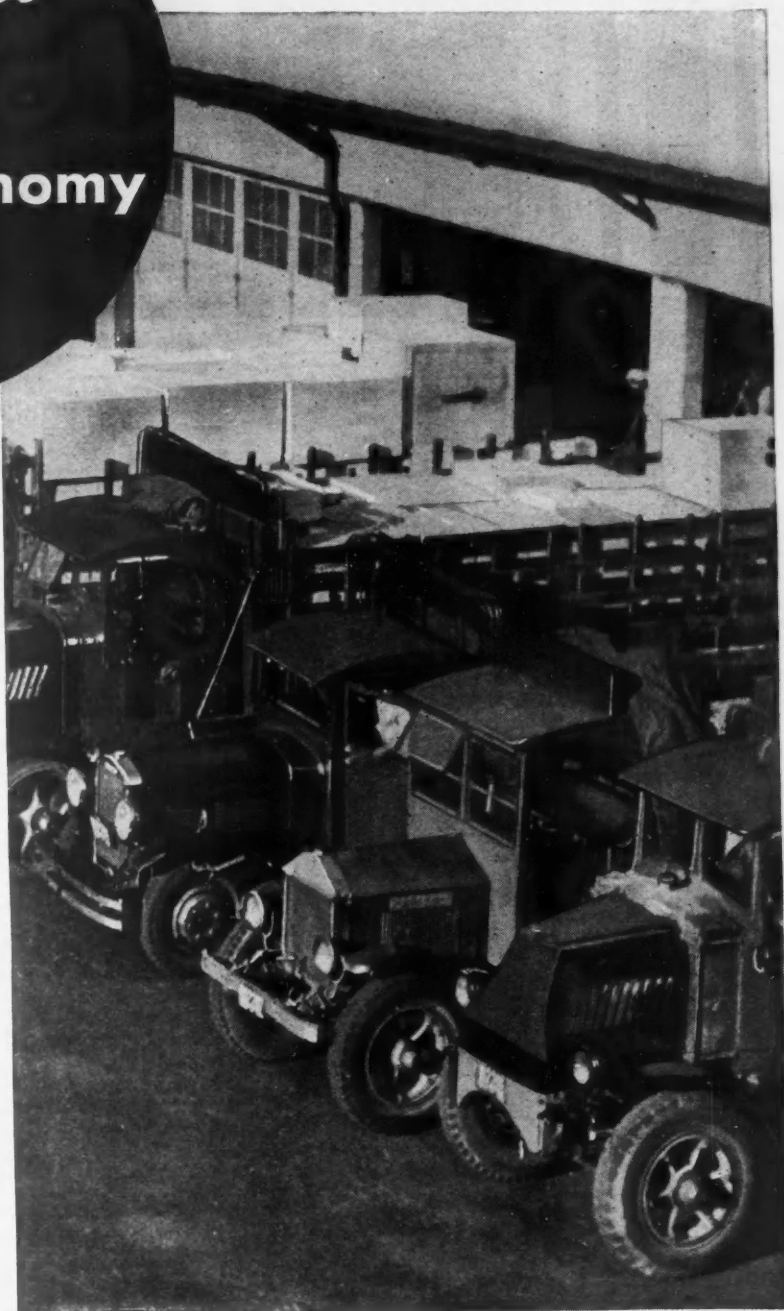
Trucks

TRUCKS give low cost miles when MARFAK is used for universals, wheel bearings, shackles and steering systems. MARFAK doubles the mileage between "grease" jobs. The largest transcontinental bus system in the world has proved that MARFAK is the most economical grease lubricant to use. Many truck fleet operators have found that MARFAK keeps expenses for repairs and replacements at a minimum.

TEXACO offers you MARFAK—a grease lubricant that has *proved itself able to do three times the work of ordinary greases.*

A Texaco Engineer will gladly give you ample proof—based upon performance in service similar to yours—that MARFAK is "The World's finest Grease Lubricant." Write to The Texas Company.

THE TEXAS COMPANY • 135 E. 42nd St., N. Y.



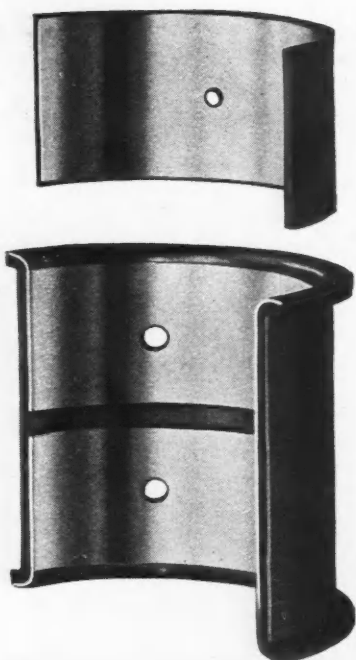
MARFAK



THERE IS A TEXACO *tested* LUBRICANT FOR EVERY PURPOSE

2 Vital Factors in

OIL CONTROL



Make it standard practice to check the rods on every oil pumping job. Make it a habit to use the best replacements—Federal-Mogul rods in sets.

COMplete oil control cannot be guaranteed on an incomplete overhaul. A complete job must include new connecting rods and rod bearings, because science has confirmed the experience of hundreds of service shops: That worn connecting rods and rod bearings, even when not knocking, are principal causes of oil pumping. New rings, new pistons, reground cylinders all do their part, but excessive clearance in rod bearings still permits excessive oil flow. It has been proved time and time again that many oil pumpers only partly corrected by other means are *entirely* corrected by installation of new connecting rods or rod bearings. When you promise the customer to correct oil pumping, remember to check the rods when the motor is opened up. They are *vital factors in oil consumption*. If worn, replace with the parts you know are *right*—Federal-Mogul Rods and Slip-in Bearings. This extra service assures a complete job, well done. It brings a good profit. In fact, rod and rod bearing replacement offers one of your biggest profit opportunities in the entire service field. You can depend upon Federal-Mogul Connecting Rods and Slip-in Bearings. They are metallurgically and mechanically *right*. A Federal-Mogul jobber near you carries a complete stock and gives prompt service. Telephone him today.

Federal Mogul
FEDERAL

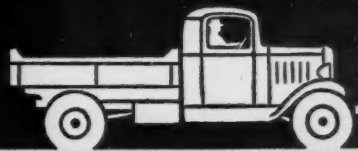
FEDERAL-MOGUL CORPORATION • DETROIT, MICHIGAN
Operating Watkins Babbitting Service



TRACTOR... 

REAR-WHEEL-DRIVE TRUCK... 

UTILITY RANGE

MARMON-HERRINGTON ALL-WHEEL-DRIVE... 

ENGINEERING FACTS

By A. W. Herrington—the country's leading all-wheel-drive engineer

There is no center differential in any Marmon-Herrington all-wheel-drive truck—for very good reasons.

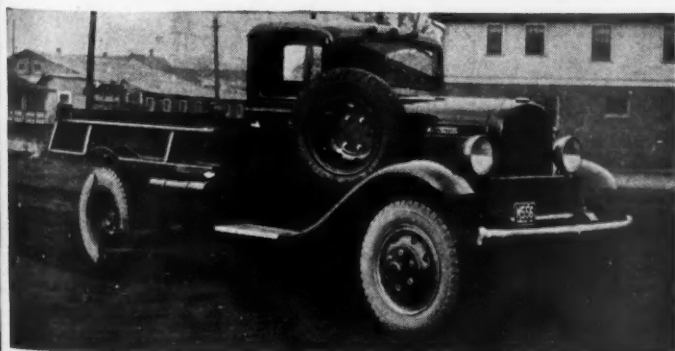
Practice clearly demonstrates that the Marmon-Herrington type of construction gives better tire wear. The possibilities of designing an all-wheel-drive truck so that, when it is loaded, the front and rear axles will bear the load equally, are quite remote. Even if such a design were achieved, however, the moment the vehicle arrives on any grade the uniform loading of the axles no longer would exist. Then if a center differential is used, the power flow would be divided and would do the natural thing—take the channel of least resistance and leak out through the front wheels, causing them to spin on the pavement because the rear wheels would be the more heavily loaded.

It is logical, also, that the tire wear on the front wheels of an all-wheel-drive truck with no center differential is no greater than the corresponding wear between the two tires of the rear dual wheels.

Inasmuch as a center differential is not necessary in the first place, we believe we have done the only common sense thing by eliminating it entirely.

ABOVE—Two 6-ton four-wheel-drive models in road-building operations in the Pacific Northwest.

BELOW—A Model A10-4, four-wheel-drive, capacity 1½ to 2 tons, equipped with dump body and underbody scraper.



TRACTOR POWER TRUCK SPEED MARMON-HERRINGTON HAS BOTH

You can put a Marmon-Herrington all-wheel-drive truck on the highway and haul bigger payloads at higher speed with greater safety.

You can take the same truck off the highway and do the jobs ordinarily assigned to a tractor.

It is a fact that every Marmon-Herrington all-wheel-drive is, in reality, two vehicles in one. It combines the advantages of a rear-driven unit with the sure-footed traction and draw bar ability of the track-laying tractor. It is adaptable to any type of equipment—underbody scrapers, pull-type maintainers, snow plows, bulldozers, etc. It will operate in the mud, in tough gravel pits, on hills, across country. No matter what your job, it's all the same to a Marmon-Herrington.

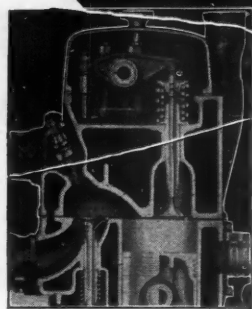
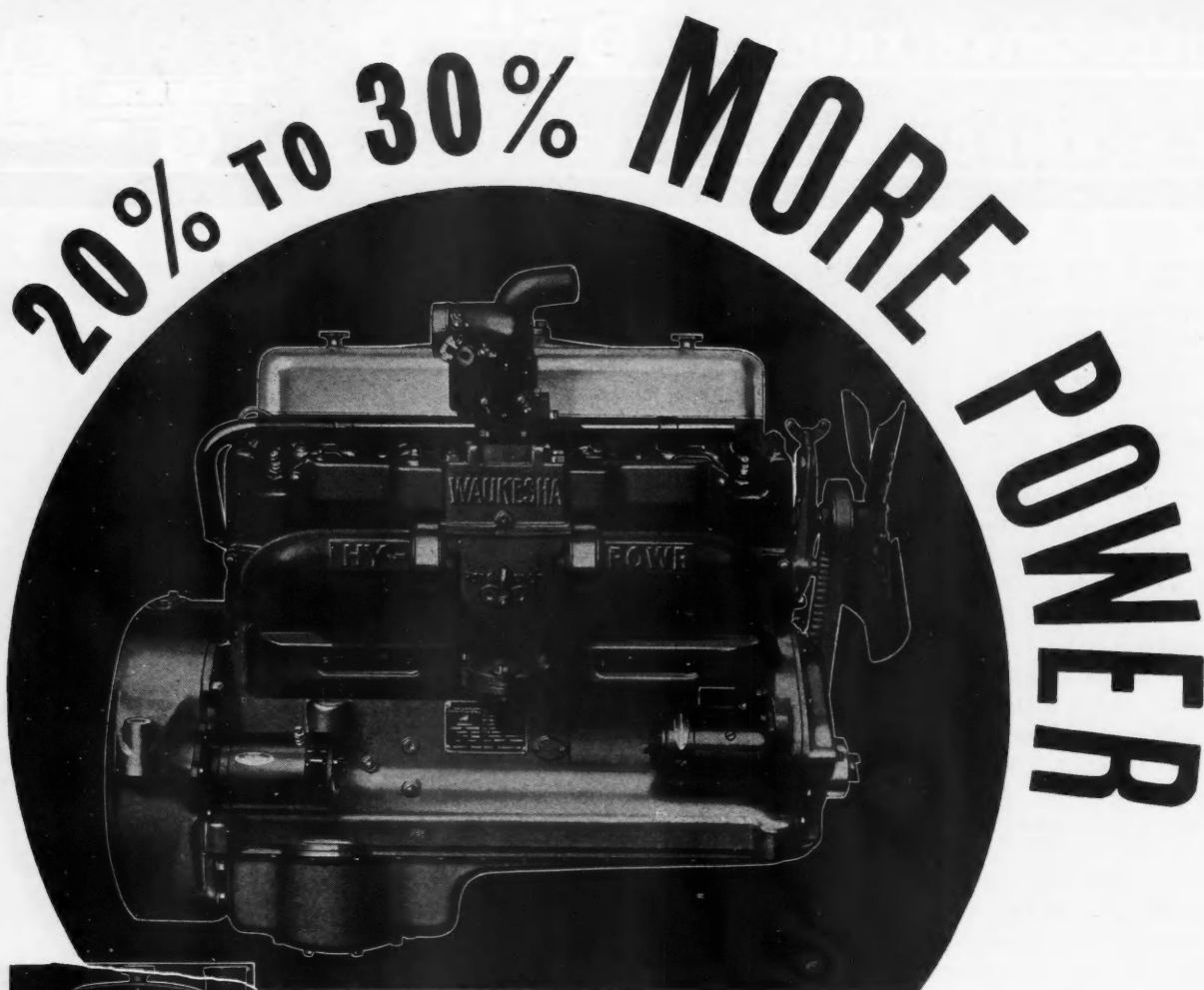
There are 28 Marmon-Herrington models—four and six wheels driving—ranging in capacity from 1½ tons upward. Write today for complete facts and specifications.



Desirable Territories Open for Distributors

MARMON-HERRINGTON CO., INC.

All-Wheel-Drive Motor Trucks... Indianapolis, Indiana



WITH UTMOST ECONOMY

DESIGNERS—here's a new six-cylinder power plant for motor trucks and coaches. So conservatively rated and so efficient that it is no longer necessary to meet present markets by a compromise. No longer need a pygmy engine be put on a man-sized job. • It has the Waukesha Hy-Powr combustion chamber...the most important gasoline engine development in years...exclusively Waukesha. Result—power is increased 20% to 30%...with an equal saving in weight and size. Cooling is improved...valves and seats last longer. The engine runs smoother. Fuel consumption is reduced. Improved materials assure long life. • Write today for Bulletin 887. Waukesha Motor Company, Waukesha, Wisconsin.



WAUKESHA ENGINES

COMMERCIAL CAR JOURNAL

A New and Greater Line of

A New and Greater Line of INTERNATIONAL TRUCKS

NEW STREAMLINE DESIGN—MODERATELY PRICED—IMPROVED PERFORMANCE

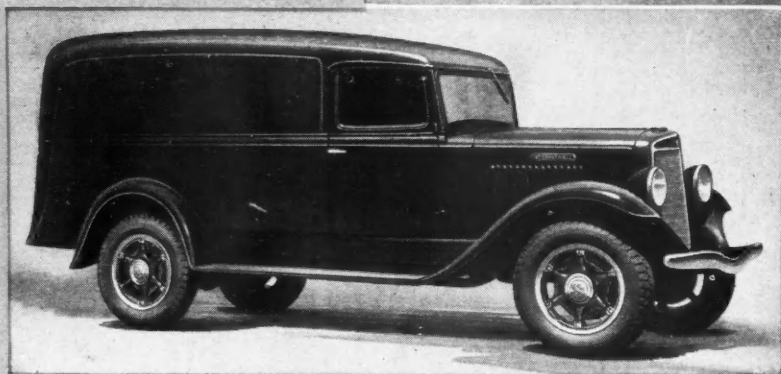
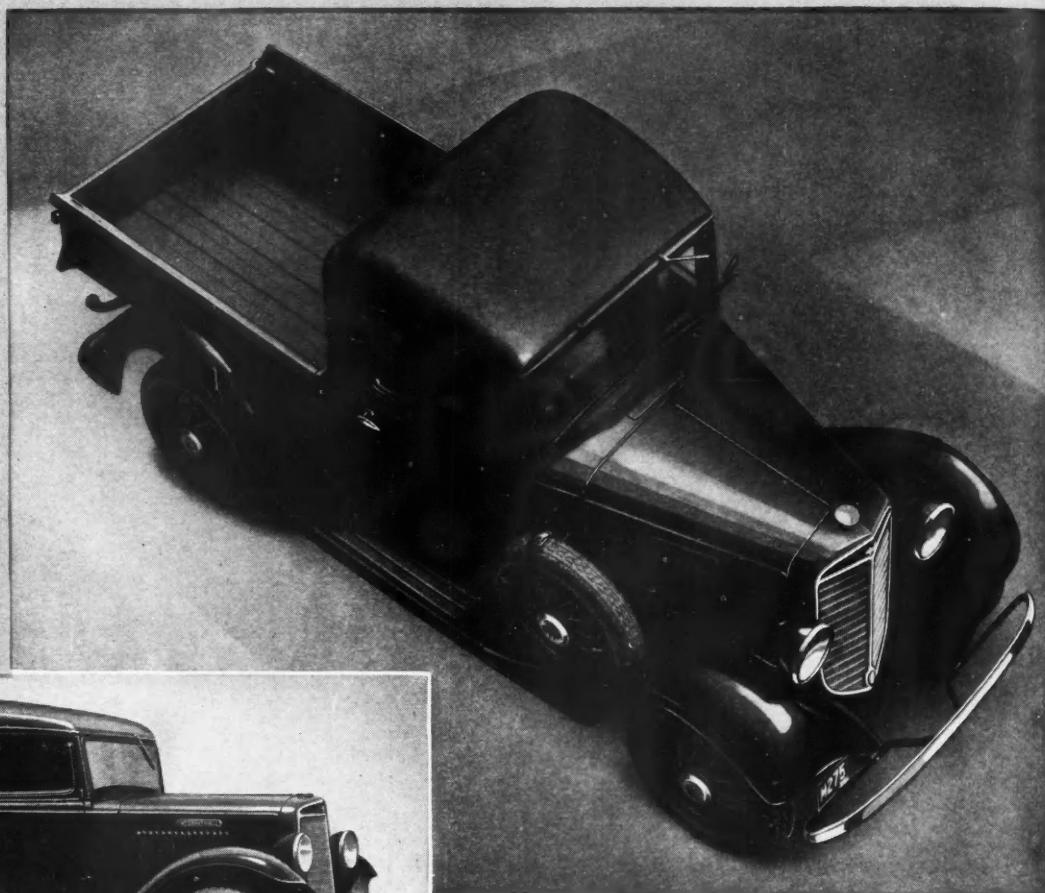


A Broad New Sales and Profit Opportunity for Truck Distributors and Dealers

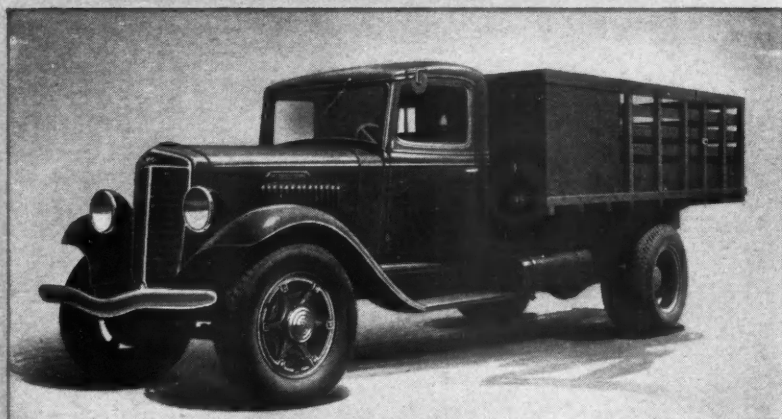


INTERNATIONAL TRUCKS are built in a full range of sizes, from ½-ton to 10-ton. Wheelbases, capacities, bodies, and equipment are provided to meet the requirements of all branches of industry, commerce, and agriculture.

At Right: The popular new International Model C-1 Half-Ton Truck equipped with cab and pick up body. Model C-1 is built in two lengths—113-in. and 125-in. wheelbases. Pick-up bodies, 6 ft. and 7-ft. panel bodies, canopy-top express, and station-wagon bodies are available for the Model C-1 chassis.



Above: This is the new International 1½ to 2-ton Model C-35, equipped with modern streamlined panel body. This view shows how the new International chassis style blends with the latest developments in body design to produce a distinctive unit.



Above: This view shows the powerful International 2 to 3-ton Model C-40. In the International line the stake body is attractive as well as useful.

INTERNATIONAL HARVESTER presents a complete new series of beautiful streamlined International Trucks embodying new engineering features and new mechanical excellence throughout. Moderately priced, attractive in appearance, stressing transportation at low cost, they will be extremely popular with truck users all over the world. Consider these facts when you choose a line of motor trucks to represent in your territory.

Here Is What International Harvester Offers:

A complete line of trucks from ½-ton to 10-ton. A reputation without equal for quality and after-sale service. 201 International Harvester branches offering International dealers the closest possible assistance in sales and service. International Truck finance plan on both new and used trucks. Largest advertising campaign of any full-line truck manufacturer, constantly promoting the sale of Internationals in national magazines, newspapers, vocational publications, and through direct-mail.

Call the nearest International Branch for full details about the International Truck contract in your territory.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
606 S. Michigan Ave. (Incorporated) Chicago, Illinois

INTERNATIONAL TRUCKS

A
B

AUGU



ARE YOU TRYING TO DEFLATE BATTERY MAINTENANCE COSTS?

Don't overlook a chance to cut costs. Battery maintenance can cost plenty or little—depending chiefly on the kind of batteries you use. It is no idle claim that Exides can cut your costs. Fleet operators, from Maine to Florida, from the Atlantic to the Pacific, have found that Exides are economical.

There is always a reason for a fact like this. With Exide Batteries, it is the result of dependability, freedom from trouble, long life, and the extra power built into them . . . the result of nearly half a century of building Exides for every storage battery purpose in the world. There is an Exide for every size and type of truck—each one especially built for its job. Standardize on Exides, and let your cost-records show you the saving.

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

Exide

BATTERIES

FOR EVERY TYPE TRUCK



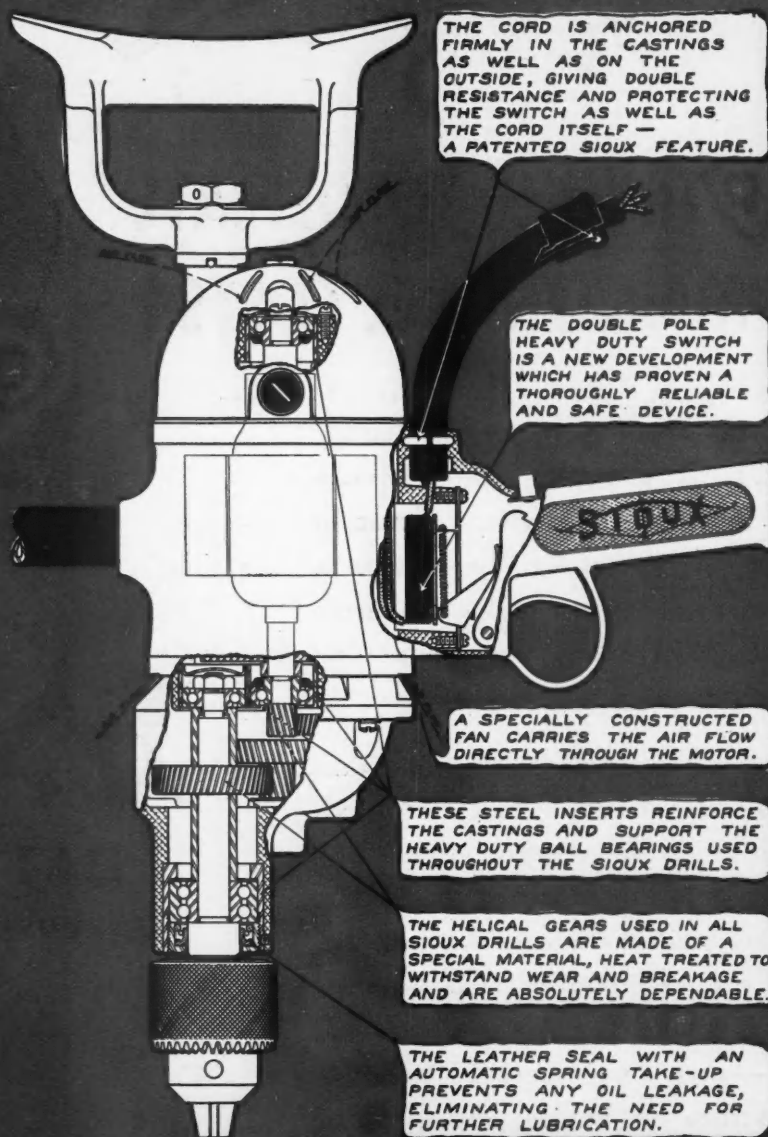
EXIDE ENGINEERING SERVICE

conducted by trained and experienced battery engineers is available without charge to fleet operators. Make use of this service—it can help lower your maintenance costs.

SIoux ELECTRIC DRILLS

Why they are amazingly efficient, powerful, dependable, cool-running, lightweight, yet sturdy and durable!

BALANCED POWER



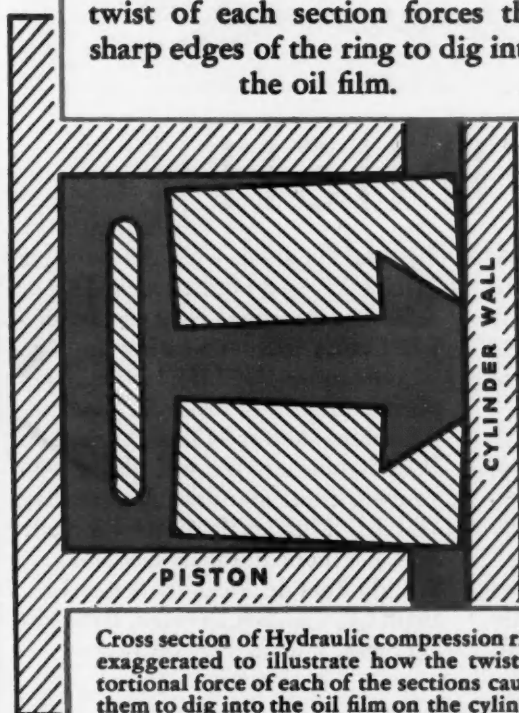
STURDY CONSTRUCTION

YOUR JOBBER SELLS THEM

ALBERTSON & CO., Inc., SIOUX CITY, IOWA, U.S.A.

ONLY**Pedrick***Brings
you***HYDRAULIC ACTION****THE *Most Positive* OIL CONTROL PRINCIPLE
EVER DEVELOPED IN PISTON RING DESIGN!**

Note below how the tortional twist of each section forces the sharp edges of the ring to dig into the oil film.

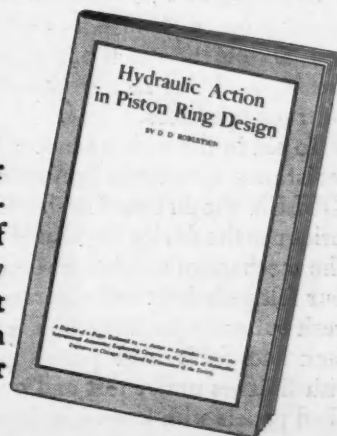


Cross section of Hydraulic compression ring exaggerated to illustrate how the twist or tortional force of each of the sections causes them to dig into the oil film on the cylinder on both the up and down stroke of the piston, packing the oil between and behind the sections.

Hydraulic Action—an exclusive Pedrick feature—has brought to the fleet operator the ability to stop oil loss, stop piston slap, eliminate blow-by, increase gas mileage and compression and assure this efficiency at all speeds. This means economy of operation, and the proof of the efficiency of this new principle in piston ring design is the ever-increasing number of fleet operators who are using Pedrick Hydraulic rings. Hydraulic Action has revolutionized piston ring performance. Write us today for complete information.

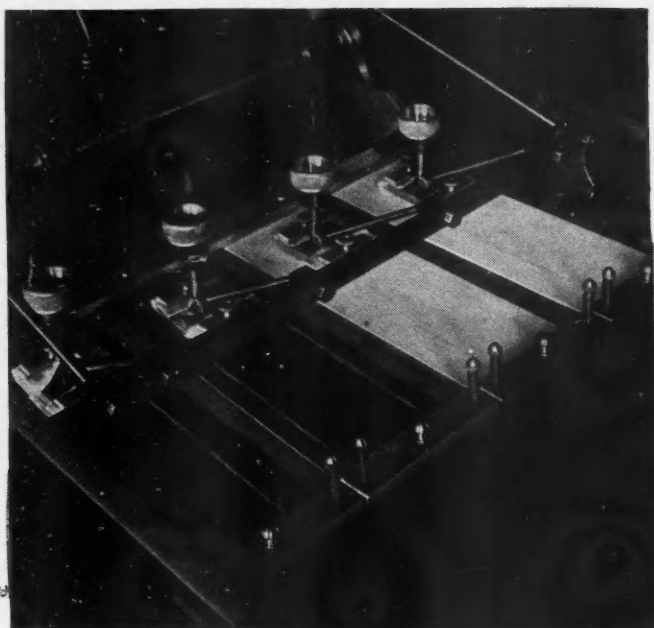
Send Today for**Your Free Copy**

Let Hydraulic Action cut your maintenance expense. The benefits of this new principle of motor reconditioning are fully explained in the S. A. E. booklet entitled "Hydraulic Action in Piston Ring Design." Write for your copy.

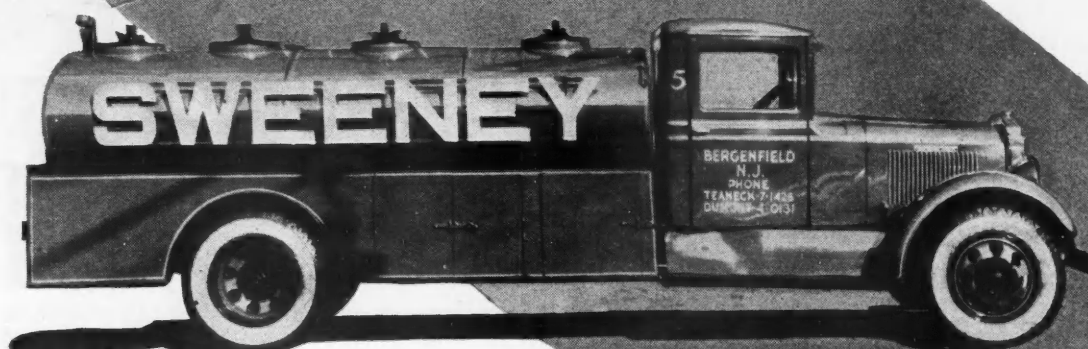


Wilkening Manufacturing Co.
Philadelphia





Sweeney Oil Company is one of the rapidly growing list of fleet owners who have found in Automotive DULUX a way to keep trucks looking spick and span longer and finishing costs lower.



100,000 GREASE RUBS...

PROVE THIS FINISH

WHY HAS Automotive "DULUX" (air drying) gained so wide an acceptance as *the* finish among users of commercial vehicles in the petroleum industry? One thing certainly has meant a lot to them—its remarkable resistance to the effects of gasoline and grease. And this fact is important to all truck operators.

To aid in the maintenance of grease resistance standards in Automotive "DULUX" the du Pont Finishes Laboratories use the device illustrated above. The mechanism consists essentially of four felt pads kept well saturated with fresh butter by grease cups. They slide back and forth over panels painted with finishes under test and over finished panels with known resistance to butter. These latter panels are used as a standard of comparison. Butter is used because the free acids in its composition make it more harmful to finishes than other greases.

This du Pont Grease Resistance

Tester makes 100,000 strokes. The panels are then removed and compared for softness and wearing effects. Thus du Pont chemists are constantly checking the grease resistance of Automotive "DULUX."

The characteristics of Automotive "DULUX" that keep trucks smart and new-looking longer mean lower refinishing costs. For this finish is not only extremely resistant to the harmful effects of gasoline and oil—it retains these qualities under exposures that quickly mar the appearance of other finishes.

Trucks finished with Automotive "DULUX" need not be touched up or refinished so often. They can be polished more without wearing through.

Automotive "DULUX" is easily applied with spray or brush, in your own refinishing shop or by an authorized du Pont Refinisher. We will gladly help you work out standard Automotive "DULUX" specifications for your fleet. For more information address... E. I. du Pont de Nemours & Co., Inc., Dept. C8, Finishes Division, Refinishing Sales, Wilmington, Delaware.



D—AUTOMOTIVE— DULUX

REG. U. S. PAT. OFF.

(AIR-DRYING)

**DU PONT MAKES A COMPLETE LINE OF
AUTOMOTIVE REFINISHING MATERIALS**

COMMERCIAL CAR JOURNAL



AUTOMOBILE TRADE JOURNAL LEADS AGAIN!

The race isn't over—be it horse, yacht, automobile, circulation or what-not—until you have accounted for **AUTOMOBILE TRADE JOURNAL**, which has been setting paces and finishing ahead since June, 1896.

This time it's circulation, and Automobile Trade Journal Leads Again, with - -

Way Over 60,000
Paid Automobile Trade Journal Subscribers
—No Arrears—

Total Net Paid, Including Bulk, Average for 6 mos., 58,656

The chart, at the left, will show you—month by month—the record-making advances Automobile Trade Journal **PAID CIRCULATION** has made since January, 1934. The figures are from the June 30, 1934 A. B. C. Statement. You can check them there.

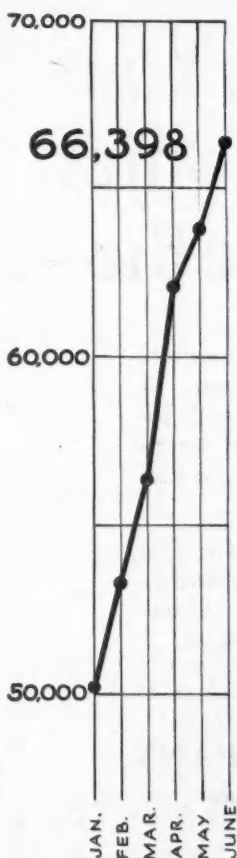
In unprejudiced tests, **AUTOMOBILE TRADE JOURNAL** invariably **LEADS** in **READERS** and **PREFERENCE**. A new survey has recently been completed by a New York advertising agent—with the same results. Details will be sent you on request.

When you wish to reach the **GREATEST NUMBER** of Paid Subscription automotive wholesalers and retailers—through the publication they **PREFER**—the **FACTS** will direct you straight to - -

AUTOMOBILE TRADE JOURNAL

A Chilton Publication

Chestnut & 56th Streets, Philadelphia, Pa.



Circulation Figures from
June 30, A. B. C. Statement

AUGUST, 1934

A FIRM FOUNDATION ENGINEERING MATERIALS **Kingham** WORKMANSHIP MAKES A BETTER TRAILER

And workmanship is the foundation of every Kingham product.

Good engineering and materials are necessary, but it takes real workmanship to make any trailer last through many years of service.

Kingham products are of simple design and rugged construction. They will stand your own test.

Write for literature on Trailers, Bodies and Winches.



KINGHAM TRAILER CO., Inc.

15TH & HILL STS.,

LOUISVILLE,

KENTUCKY



Luke Sep:

Many dealers are coming in to get their trailers—so they can see our new building. Plenty of room for all of you. Come on in.

WHEN THE FLEET COMES IN

Check Wheel
Alignment with
BEE-LINE Pre-
cision Aligning
Gauges.

A good terminal operator appreciates the danger of excessive tire wear. More and more Bee-Line Aligning Gauges are becoming standard equipment in the terminal service stations.



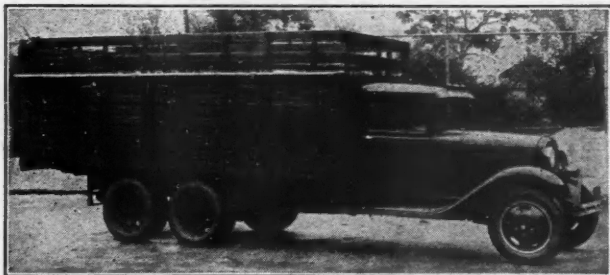
THREE GAUGES IN ONE

For the precision gauging of Camber Caster and King Pin angle. Checks Caster and King Pin inclination in one operation—affords the quickest, simplest and most accurate means for checking the three most important alignment angles.

Write for further information

BEE-LINE MANUFACTURING CO.
BOX 569 : : : DAVENPORT, IOWA

RELIABLE as the Ford truck itself



PERFECTION THIRD AXLE Units

Perfection E-B Third Axle Units are built to give the same kind of reliable service that makes Ford Trucks the choice of careful truck buyers. Perfected flexibility - double the brakes - maximum traction - least road impact. Get the complete facts and sell more trucks to the customer who needs bigger capacity. Ask your distributor or write us direct.

THE PERFECTION STEEL BODY CO.
GALION, OHIO

PERFECTION
THIRD AXLE UNITS • BODIES • HOISTS

Suggest to Your Next Customer That He Use the—

Commercial Car Journal
Standard Cost System. A
simple, convenient and in-
expensive method of keep-
ing close tabs on trucks and
drivers.

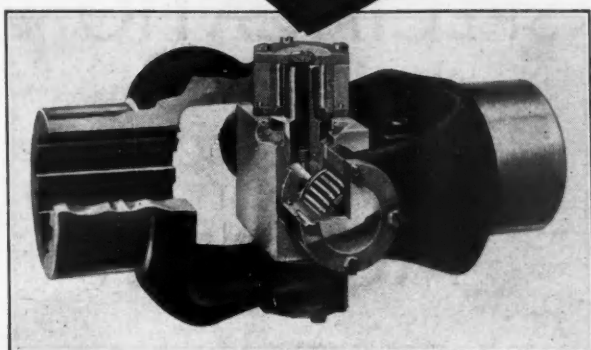
It costs only \$9.50 for 500
Driver's Cards, 60 Monthly
Summary Sheets, 1 Com-
plete Instruction Book, 1
Binder.

CHILTON COMPANY

Chestnut and 56th Sts.

Philadelphia

30 Years
of Specialization
Are Embodied
in this New Line
of Ton-Safe . . .
Roller Bearing
Universal Joints



★ In keeping with the trend toward constant improvement in automotive units, Blood-Brothers are pleased to present a complete line of heavy duty, single and double universal joints and propeller shaft assemblies of the roller or anti-friction bearing type, known as the W series.

The design of the W series joint closely follows that of its predecessor, the Model BW, except for the incorporation of the roller type of bearing. The same yoke design is used, and basically the center cross design is the same. The result is the incorporation of all the ruggedness and simplicity of the well-known Model BW, plus the addition of frictionless bearings, better lubricant retention, increased capacity and smaller rotating diameter.

Investigate Blood-Brothers Ton-Safe Universal Joints, and ask us to estimate on your requirements.

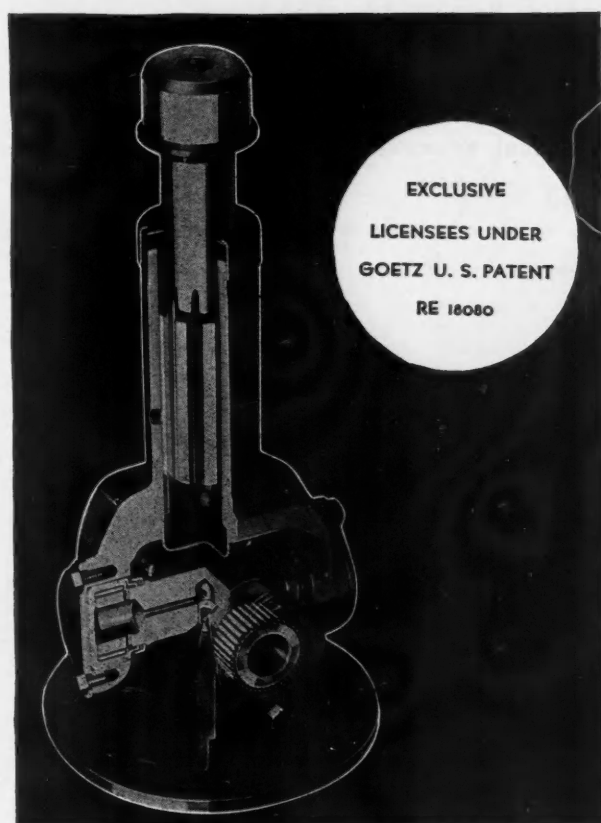
**BLOOD-BROTHERS
MACHINE COMPANY**
Alegan, Michigan.

AUGUST, 1934

NEW



NEEDLE BEARING UNIVERSAL JOINTS



EXCLUSIVE
LICENSEES UNDER
GOETZ U. S. PATENT
RE 18080

In leading makes of modern cars, trucks and buses, new Spicer Needle Bearing Universal Joints are proving their quality beyond question. They are notable for greater efficiency, reduced friction and longer life.

Spicer

MANUFACTURING CORPORATION
TOLEDO, OHIO

BROWN-LIPE
CLUTCHES and
TRANSMISSIONS

SALISBURY
FRONT and REAR
AXLES

SPICER
UNIVERSAL
JOINTS

PARISH
FRAMES
READING, PA.

SHULER

TUBULAR TRAILER AXLES

Are made from a
**ONE-PIECE SEAMLESS TUBE and
HEAT TREATED**

The spring seat castings with brake mounting flange cast integral are pressed on the tube by a mechanical process, thus maintaining the heat treated metallic structure of the virgin metal.



**NO HIGH WELDING TEMPERATURES
TO CAUSE METAL FUSION ARE
EMPLOYED.**

SHULER AXLE COMPANY, Inc.

W. E. Dugan, President and General Manager
Louisville, Kentucky

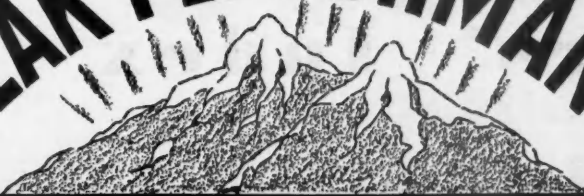
COMMERCIAL CAR JOURNAL

TRUCK SPECIFICATIONS

ARE CORRECTED MONTHLY

You can depend on the
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as being accurate and up-
to-the-minute. Use them
to sell and use them to
service.

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Year in and Year out...

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ONLY peak performance, constantly maintained, can give peak profits. Fruehauf Trailers are built to give ten years or more of profit-producing service. Ask for new booklet "Executive Thinking," sent free upon request.

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Auxiliary Driving Lights



Tail Lamps



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Greater Efficiency
Greater Durability

K-D offers you a complete assortment of Clearance Lamps, Reflex Signals, Truck Mirrors, Tail Lamps, Torches, and other items needed by motor trucks for safety on the highways.

K-D offers you a complete assortment of these items which are scientifically constructed for maximum efficiency and of sturdy construction. K-D products are designed by engineers who have spent years in the study of motor car lighting.

K-D has prepared for you a chart delineating the necessary clearance lamp and reflex signal installations as required by the various states. It is yours for the asking. Just send us your name and address.

THE K-D LAMP CO.
610-616 W. Court St.
CINCINNATI OHIO



Torches



Clearance Lamps

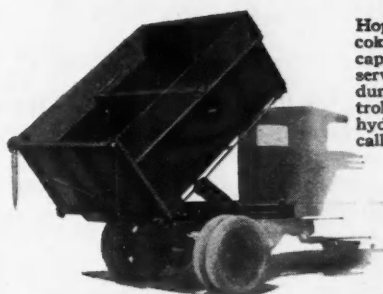


Marker Lights



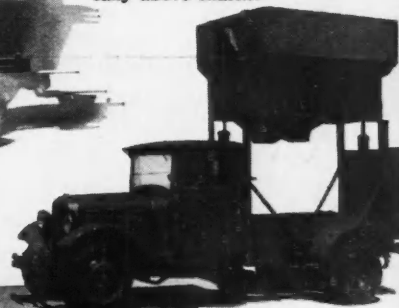
Truck Mirrors

DUMP BODIES and HOISTS for COAL and COKE



Hopper Type SHL-1 Hi-lift coal or coke unit (below) having three tons capacity with three compartments served by one chute on each side; dumping of compartments controlled by individual levers. Two hydraulic hoists raise body vertically above chassis.

Type C-5 body (above) designed to handle 2 tons of coal, or 2 tons of coke with sideboards added. Note coal door, chute in gate and partition.



Semi-trailer and trailer coal and coke dump bodies are built in steel or aluminum for large loads and long hauls.

Write for special Coal Catalog.

GAR WOOD INDUSTRIES, INC.

HOIST AND BODY DIVISION
7924 RIOPELLE STREET DETROIT, MICHIGAN

LUCE MASTERCRAFT

TRUCK

BODIES

Production and Custom Built Body Equipment Vocationally Designed

LUCE MANUFACTURING CO.
Lansing, Michigan

DOUBLE YOUR TRUCK INCOME WITH TRUCKTOR

The Truck-Mated Third Axle
Haul 2 PAYLOADS EACH TRIP!

Ready NOW For All Makes And Sizes of Trucks

THE TRUCKTOR CORPORATION
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NEW LOWER PRICED

2 ton truck \$895

A sensational truck at a surprisingly low price. No sacrifice of the usual STEWART quality. No compromise with the features that have long made STEWARTS famous for long life and economical operation. Compare it side by side with any other truck. You'll be convinced that it is "America's Greatest Truck Value" . . . honestly built, honestly rated, honestly priced. If you're looking for a truck that will stay on the road and out of the repair shop, see this newest STEWART value.

STEWART MOTOR CORPORATION
Buffalo New York

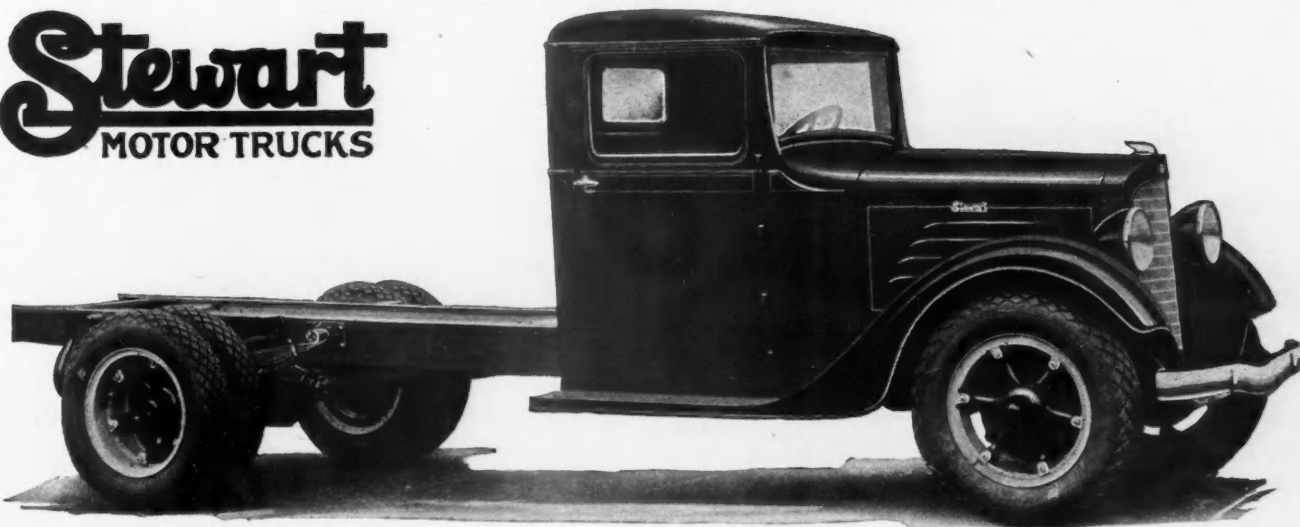
CHASSIS F. O. B. BUFFALO

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¾ Ton6 Cyl.
1 Ton6 Cyl.
1½ Ton6 Cyl.
2 Ton6 Cyl.
2½ Ton6 Cyl.
3 Ton	..6 and 8 Cyl.
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5-6 Ton6 Cyl.
7-8 Ton6 Cyl.

Also see the New
1½-Ton at \$695

Stewart
MOTOR TRUCKS



SPECIFICATIONS

Wheelbase Lengths: 134", 145", 160", 176", 190". 6 Cylinder Motor. Removable bloc. Side mounted water pump. Steel valve inserts. Stromberg carburetor. Roller bearing universal joints. Ross roller mounted steering. Full floating rear axle. Helper springs. Hydraulic brakes. 6.50-20 heavy duty tires, dual rear, 7½" frame.

Stewart Trucks Have Won—By Costing Less To Run

AUGUST, 1934

Standardize

ON THIS AC TRIO

FOR 100% SPARK PLUG SERVICE



AC LONG LIFE SPARK PLUG

Built for heavy service . . . with many exclusive, patented features. Original factory equipment on 7 out of 10 buses and trucks built today. Now offered at the lowest price of any factory-approved spark plug.



THE QUALITY SPARK PLUG



AC HEAT RANGE CHART

The type of plug used as equipment and recommended for replacement is for *normal* operating conditions. If engines operate under *abnormal* conditions (too hot or too cool), AC's Heat Range Chart will indicate the proper spark plug.



AC SPARK PLUG CLEANER

Even before they are worn out, spark plugs may waste 10% of the fuel because of oxide coating, carbon fouling or improper spark gap. Keep spark plugs clean with the AC Cleaner—fast, economical, and thorough.

**The BIGGEST
60c WORTH**
in Spark Plug History

AC Long Life Spark Plugs—specially designed and built for truck and bus service—have *proved* their reliability under the severest operating conditions. Their quality is further demonstrated by the fact that the majority of buses and trucks built this year have been factory-equipped with ACs.

Spark plugs that become oxide-coated and encrusted with carbon and gum waste as much as 10% of the fuel

—injure engine efficiency—interrupt service—cause hard starting and loss of power. To remedy these difficulties, AC has developed the AC Spark Plug Cleaner. Operators regard the Cleaner as one of their best service tools.

The AC Heat Range Chart will guide you in selecting the correct AC Long Life Spark Plug for each of your vehicles. The AC Cleaner will keep these plugs in first-class condition. *All three assure you of 100% spark plug service!*

AC SPARK PLUG COMPANY
FLINT, MICH. • ST. CATHARINES, ONT.



COMMERCIAL CAR JOURNAL

HERE IT IS! DODGE 1½-TON TRUCK

FOR ONLY

\$ 490*



And Look At the High-Priced Features You Get in This Low-Priced Truck

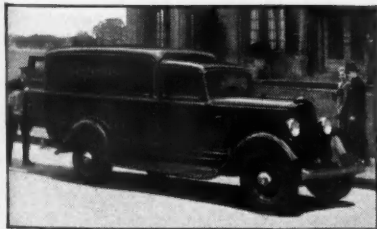
Today the prices of America's three lowest-priced trucks are virtually identical. Yet in a show-down of features Dodge leads by an astonishing margin. Dodge gives you such known, recognized advantages as these: Full-Floating Rear Axle; Valve Seat Inserts to save gas and valve grinding; Hydraulic Brakes to save tires and brake linings; 4 Piston Rings instead of the usual three, to save gas and oil; 4 Main Bearings instead of the usual three, to check vibration and prolong engine life. There are 18 of these advantages by actual count that Dodge gives you. And only Dodge among low-priced trucks gives you anywhere near all of them. No wonder, at the new low prices, thousands of added buyers are turning to Dodge.



NOW COMPARE DODGE PRICES

With Those Of Lowest-Priced Trucks Delivered In Your City

1½-TON STAKE—6-cyl.
—136" wheelbase—priced
with the lowest yet gives
you 18 money-saving,
high-priced features.....
NOW \$670*



1½-TON PANEL—6-cyl.
—131" wheelbase—Amer-
ica's handsomest delivery
truck, 18 money-saving
features.....
NOW \$740*

NOW, more than ever, get a "show-down" before you buy any truck! For over 17 years the name "Dodge" on a truck has been synonymous with dependability... long life... low-cost miles. There are many Dodge trucks on the highway today that have delivered 300,000 miles and more of dependable service.

Now Dodge wants every truck buyer in America to know that Dodge trucks are not only priced low... they actually are offered right down with the lowest-priced trucks that you can buy, delivered in your city.

Just ask your Dodge dealer for a copy of the Dodge "Show-Down" score card. It shows you what Dodge has and what other low-

priced trucks have. See how much more Dodge offers you. Then compare the delivered prices and you will see at once why so many thousands of new buyers are swinging to today's outstanding Dodge values.

DODGE BROTHERS CORPORATION
Division of CHRYSLER MOTORS

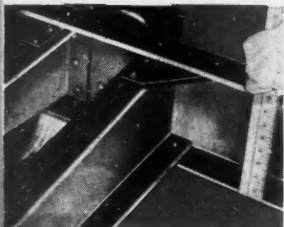
1½-ton, 6-cyl., 131" and 136" w. b. chassis - Now \$490*
1½-ton, 6-cyl., 148" and 161" w. b. chassis - Now \$520*

A complete line of Commercial Cars and Trucks from ½-Ton to 9 tons payload capacity also priced proportionately low.

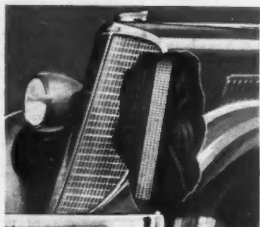
*All prices f. o. b. factory, Detroit, subject to change without notice. Special equipment, including dual wheels on 1½-ton models, extra. Time payments to fit your budget. Ask for the official Chrysler Motors Commercial Credit Plan.

Built to outlast them all—yet priced with the lowest

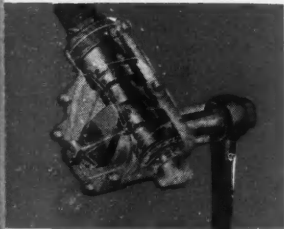
Man! What a truck!



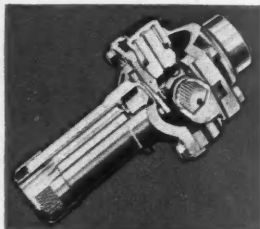
GREAT STRENGTH OF FRAME—Most trucks in this field have alligator jaw crossmembers, but Studebaker crossmembers extend the full depth of the frame and are reinforced with gusset plates firmly riveted.



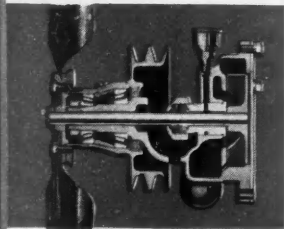
RADIATOR—Fin and flat tube type core, easier to clean and repair, slanted for greater cooling efficiency. Frontal area—517 square inches. Four rows of flat tubes.



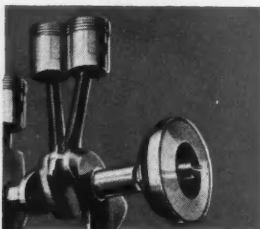
ROSS CAM AND LEVER STEERING—Used on 80% of all makes and models of trucks. Recognized as the easiest steering apparatus. Very simple to adjust and to service. Strong and durable.



UNIVERSAL JOINTS—Studebaker trucks are equipped with large Mechanics' universal joints of needle bearing type. Strong and well designed.



WATER PUMP—High capacity water pump of latest improved type. Capacity—56 gallons per minute at 2700 r.p.m. Two large tapered Timken roller bearings in the fan assembly for trouble-free performance. Stainless steel shaft.



PISTONS—Cast iron pistons electro-plated with soft bearing metal. This plating permits closer initial fit, seals in the power and adds thousands of miles to the life of the engine.

NO truck selling for less than \$700 can match the new 1½ ton Studebaker in **VALUE**.

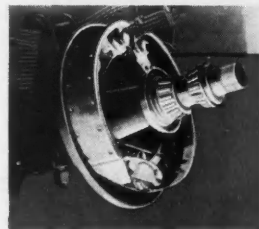
Champion Truck Engine and Bendix Equal-Action Brakes are matched by many other definite superiorities over every competitive chassis.

Studebaker men are prepared to dissect a truck on your desk and show you point by point how Studebaker gives you more for your money.

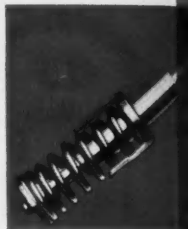
Studebaker's Champion Truck Engine challenges comparison: six cylinder, 230 cubic inch motor, developing 75 h.p. and 154 lbs. ft. torque at 1000 revolutions of the engine. With aluminum cylinder head, 5.5 to 1 compression ratio, engine develops 80 h.p. and 162 lbs. ft. torque.

This engine has a floating oil screen filter so designed that only clean and sludge-free oil is drawn into the pump.

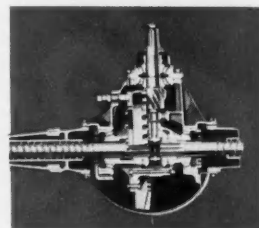
Ten out of twenty great features of Studebaker truck value are illustrated on this page.



BRAKES—Bendix Equal-Action brakes controlled by pre-stretched flexible cables give equal action on all four wheels under all load and road conditions. Brake lining is one-quarter inch thick.



VALVE SPRING—Durable on all intake and exhaust valves to prevent erratic operation of the valve springs at speeds, eliminating valve chatter and avoiding burning the valve seat and valve.



FULL FLOATING REAR AXLE—Straddle mounted pinion. Large axle shafts of heat treated nickel chromium alloy steel—load carried on housing only.



WIDE CAB DOORS—Studebaker cab permits easy entrance and exit. Desirable slanted instrument panel and generous dimensions provide unmatched comfort and convenience for the driver.

\$625

AND UP, FOR CHASSIS
AT THE FACTORY

TRUCK MANUFACTURERS SELL STUDEBAKER TRUCKS

Studebaker trucks are sold not only by Studebaker dealers, but also by these truck manufacturers: Nelson-LeMoon, Chicago; Walter LaFrance, Elmira; Kleiber, San Francisco; Kenworth, Portland and Seattle; and Auto branches in Boston, Providence, New York, Brooklyn, Bronx, Newark, Atlantic City, Camden, Philadelphia, Reading, Wilmington, Baltimore, Washington, Richmond, Albany, Syracuse, Buffalo, Cincinnati, Columbus, and St. Louis.

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